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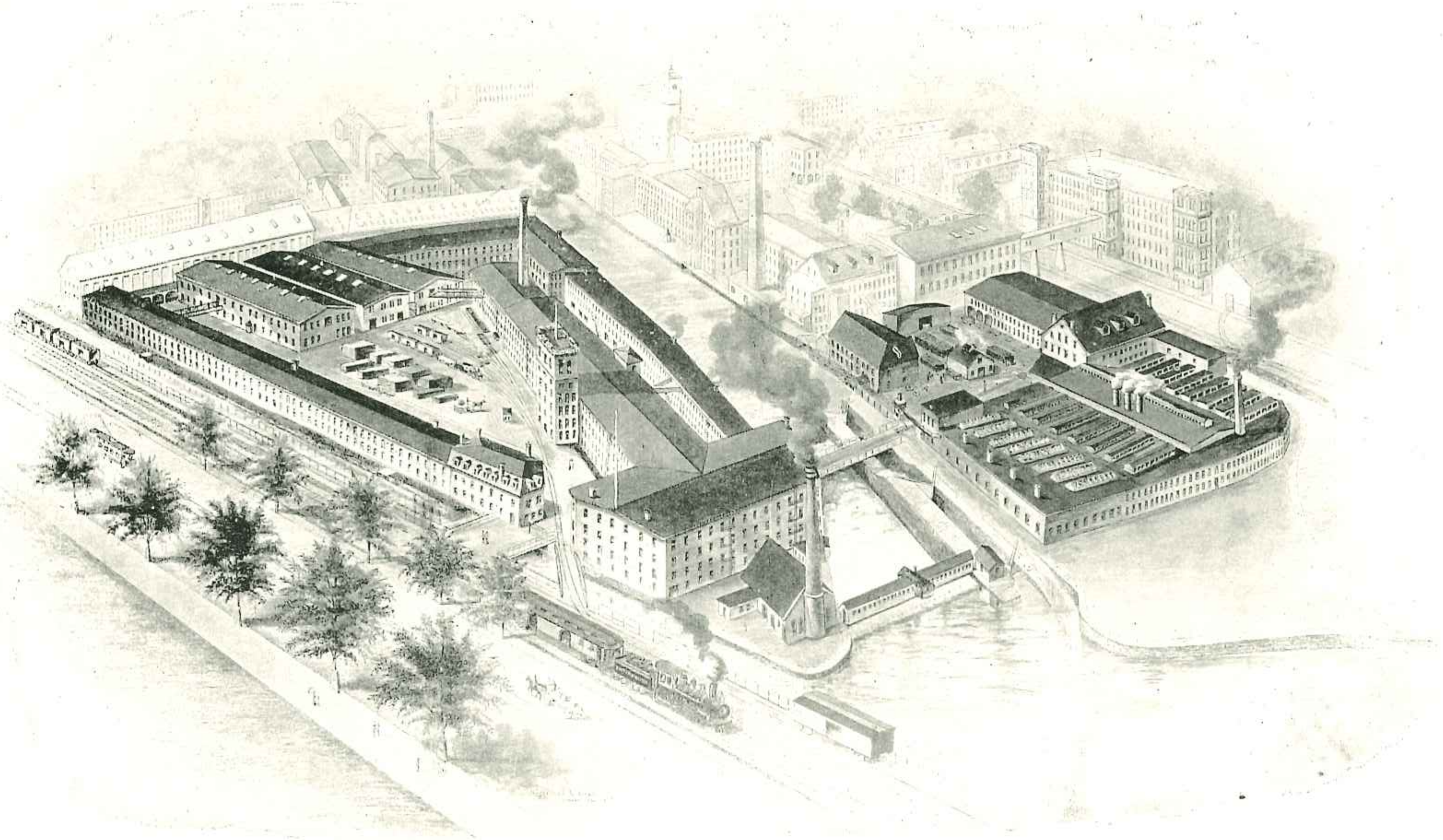

LOWELL MACHINE SHOP,
LOWELL, MASS., U.S.A.
1898.

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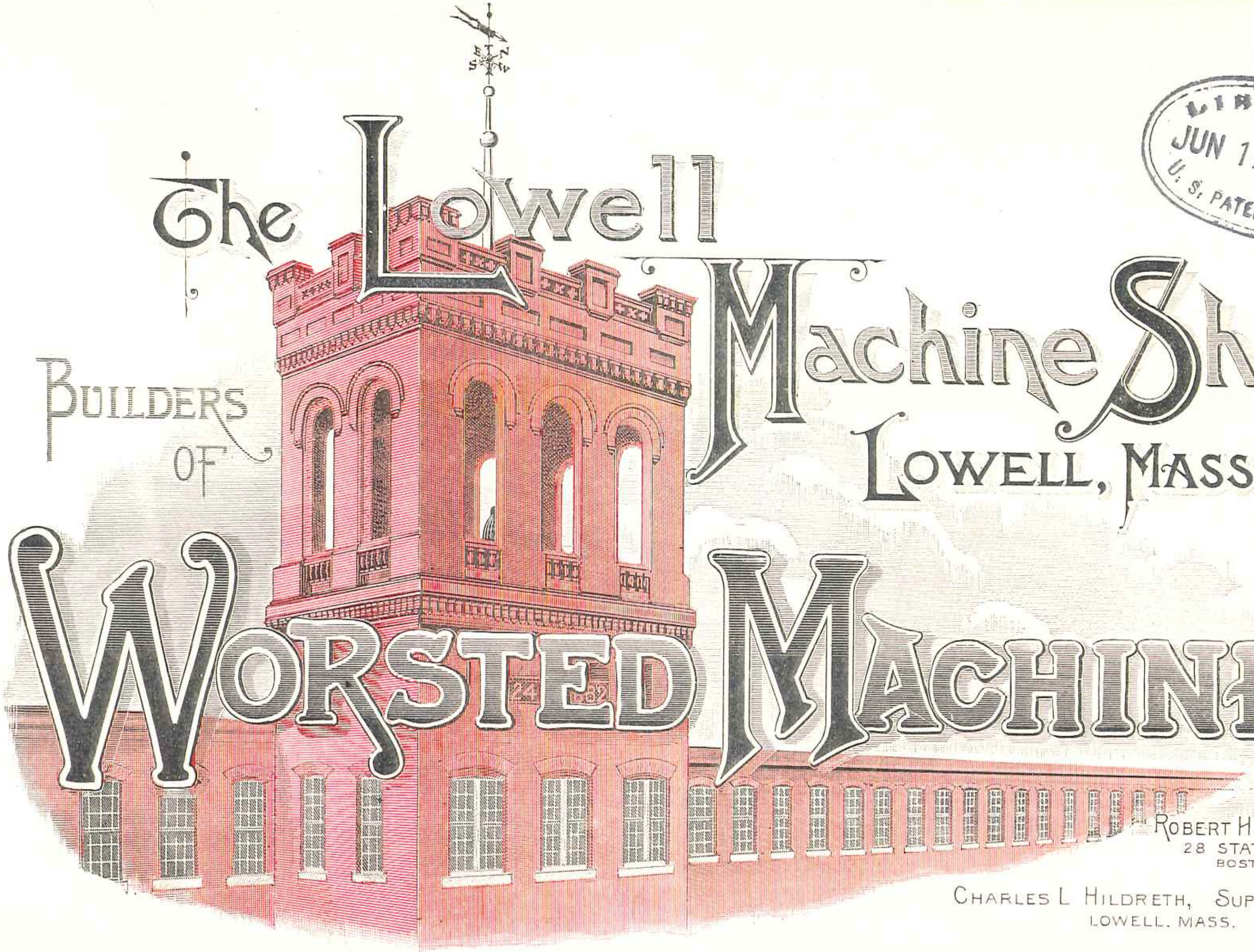

The Lowell Machine Shop.

Lowell, Mass.

Builders of

Worsted Machinery.

Robert H. Stevenson, Treas.
28 State Street.
Boston, Mass.

Charles L Hildreth, Superintendent
Lowell, Mass.

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BUTTERFIELD
PRINTING & BINDING COMPANY
LOWELL, MASS.

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Send for a set of our specification blanks and let us figure on what you are in need of.

We can make prices that should interest you.

INTRODUCTION.

WE TAKE pleasure in presenting to worsted manufacturers and others interested, a new catalogue, in which will be found cuts of our WORSTED SPINNING AND DRAWING MACHINERY. We invite inspection of these machines in order that a thorough knowledge may be obtained of their completeness.

THE LOWELL MACHINE SHOP came into existence, as a corporation, in 1845, and is therefore the OLDEST CORPORATION BUILDING TEXTILE MACHINERY IN THIS COUNTRY. They bought from the proprietors of Locks and Canals on the Merrimack River their entire plant for the manufacture of machinery, which was then considered well equipped for the building of textile machinery and locomotives. During its career of more than half a century the Lowell Machine Shop has kept in the front rank as builders of cotton machinery, and much of its success has been due to the thoroughness with which its machines have been built, and, as nearly every part is built at the shop, they have been enabled to give that personal oversight which is so essential for perfect workmanship.

In the minds of some the term "shop" conveys the impression of a small room or building fitted with limited facilities for doing either good work or much of it, but such an impression is not true of us, for when we took possession of the property, it was then employing some two hundred and fifty men, and had a foundry capacity of one hundred tons of castings per month, which would be considered a very respectable output today; very recently SEVENTEEN HUNDRED MEN have been employed and over ONE THOUSAND TONS OF CASTINGS PRODUCED PER MONTH.

From its start the shop has never been closed, except for holidays, and those of our customers who have required repairs, have always been supplied with the least possible delay.

The shops are situated between two canals and have ample railroad facilities, two tracks running directly into the yard, while there are others on each side. The entire plant occupies some THIRTEEN ACRES OF LAND, and the floor surface of the present shops, foundry, etc., EXCEEDS SEVEN ACRES, while the erecting and storage rooms would add nearly as much more.

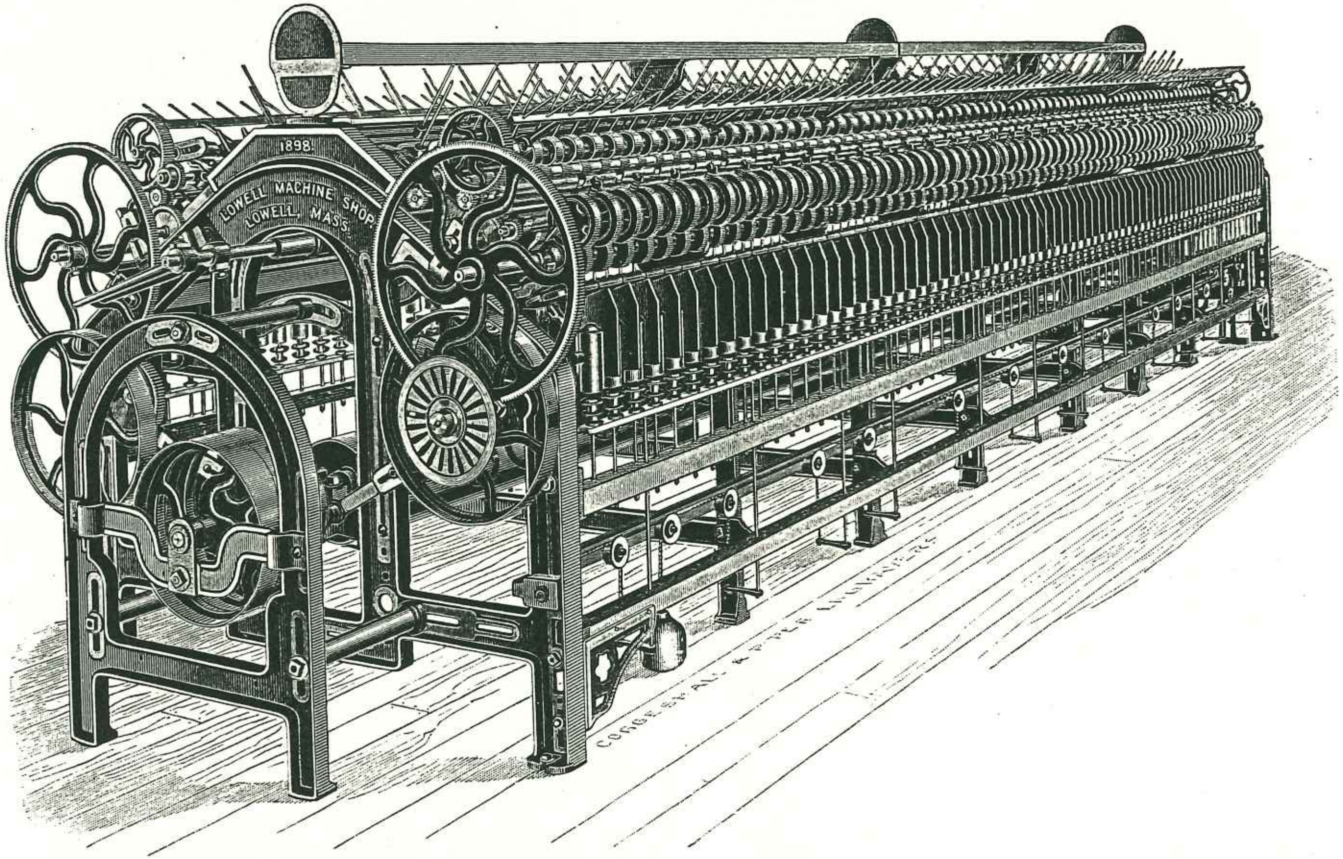
During the past few years a large amount of specially designed tools have been added, and it is believed that in its EQUIPMENT FOR DOING ACCURATE WORK IT IS EXCELLED BY NO SIMILAR SHOP.

During the first week in January of the present year, 1898, the LOWELL MACHINE SHOP decided to enter upon the manufacture of WORSTED SPINNING FRAMES. It was decided not to depart from the lines of design and principles of construction which had been followed successfully by English builders for many years, and which were satisfactory to all spinners of worsted yarns. After a careful canvas it was easily seen that Prince, Smith & Sons were the foremost manufacturers of spinning frames and that any immediate attempt to improve their frame would not meet with success.

A large corps of draughtsmen and pattern makers were employed and in a few weeks a frame ABSOLUTELY INTERCHANGEABLE in all of its parts with Smith, Prince & Sons' frame was completed. This frame was sold to the Massachusetts Mohair Plush Co., where it has been running since the latter part of March. In three or four months of constant use it has not developed a single defect. Through the kindness of E. P. Bliss, Esq., President of the Massachusetts Mohair Plush Co., the LOWELL MACHINE SHOP is permitted to show this frame to any who are interested.

The LOWELL MACHINE SHOP WORSTED MACHINERY will run side by side with the best English machinery (that made by Prince, Smith & Sons) with the same power, the same care, at the same speed, in an equal amount of floor space, uses the same repairs and has gears and screws of the same pitch.

Every facility is provided for producing the best machinery that can be made, and the works are extensive enough to safely undertake to fill an order of any size in a given time.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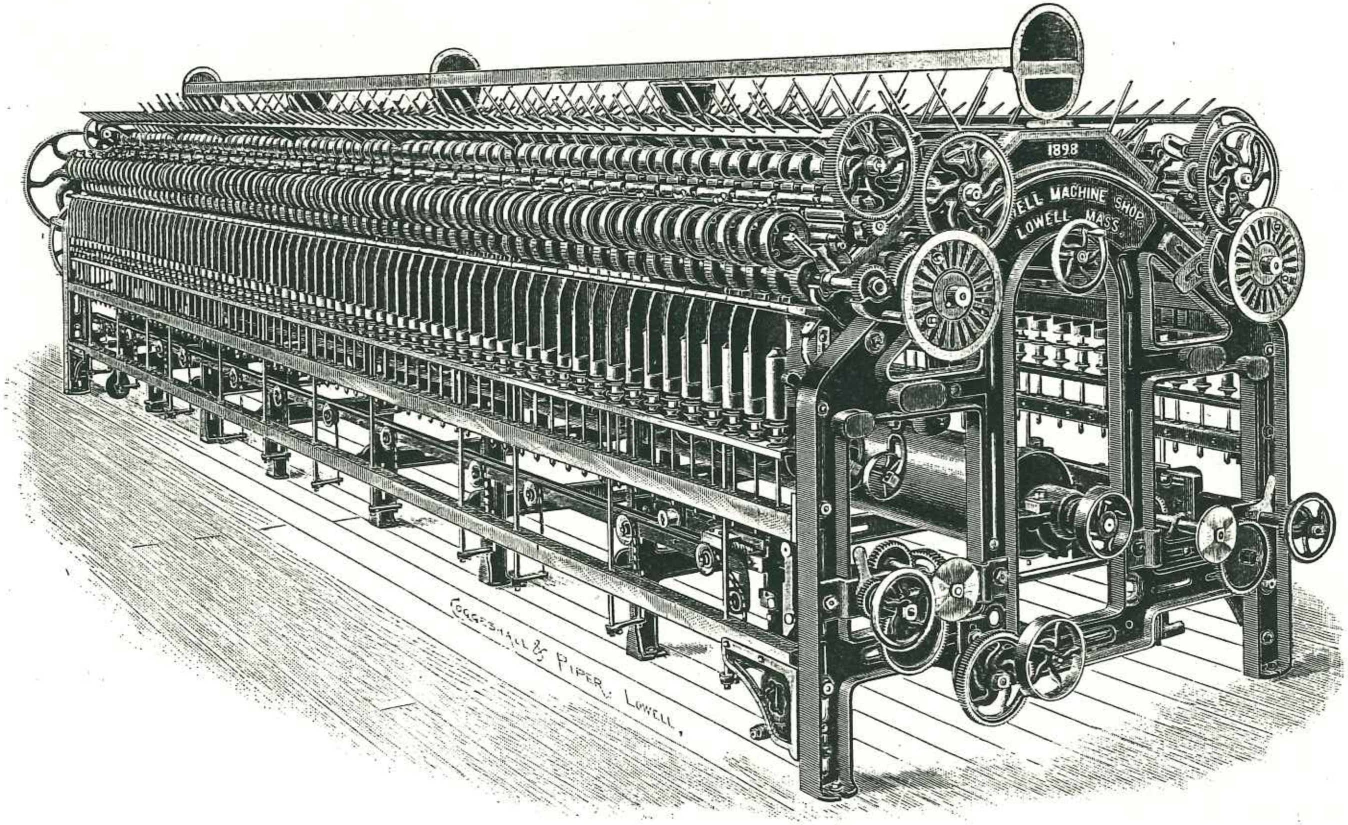
LOWELL, MASS.
COGGESHALL & PEPPER ENGRAVERS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LOWELL, MASS.
COGGESHALL & PIPER, LOWELL.

SPINNING FRAMES.

WORSTED SPINNING FRAME is made with Caps, Flyers, or Rings, short or long ratch, any number of spindles, wood or iron front top rolls, and any modifications to suit different classes of work.

LOW FRONT ROLLS are made of hard cast iron. Comparative tests show the Lowell Machine Shop rolls to be harder and to have less variation in hardness than the best made English roll.

CAPS are made of 50 per cent. carbon steel. This steel admits of tempering so that it is not hard enough to break when dropped upon the floor, and not soft enough to dent upon the lower edge when it comes in contact with a hard surface.

FLYERS are made of German steel well hardened and balanced.

TUBES are made of anti-friction composition and are guaranteed to last longer than any other make. They run true and are perfectly balanced.

WOOD ROLLS are made of best quality thoroughly seasoned yellow birch butts, and the rolls are finished by special machinery.

TOP ROLL ARBORS are made of high carbon steel and thoroughly hardened.

IRON TOP ROLLS are covered by a special process that insures the permanent adhesion of the leather to the iron without blistering.

ROLLER COVERING, whether hard or soft, is the best leather that can be obtained.

TIN CYLINDERS are thoroughly smooth and true upon the exterior, built upon corrugated heads with the rim turned over to present a broad surface for soldering, are well balanced and very stiff.

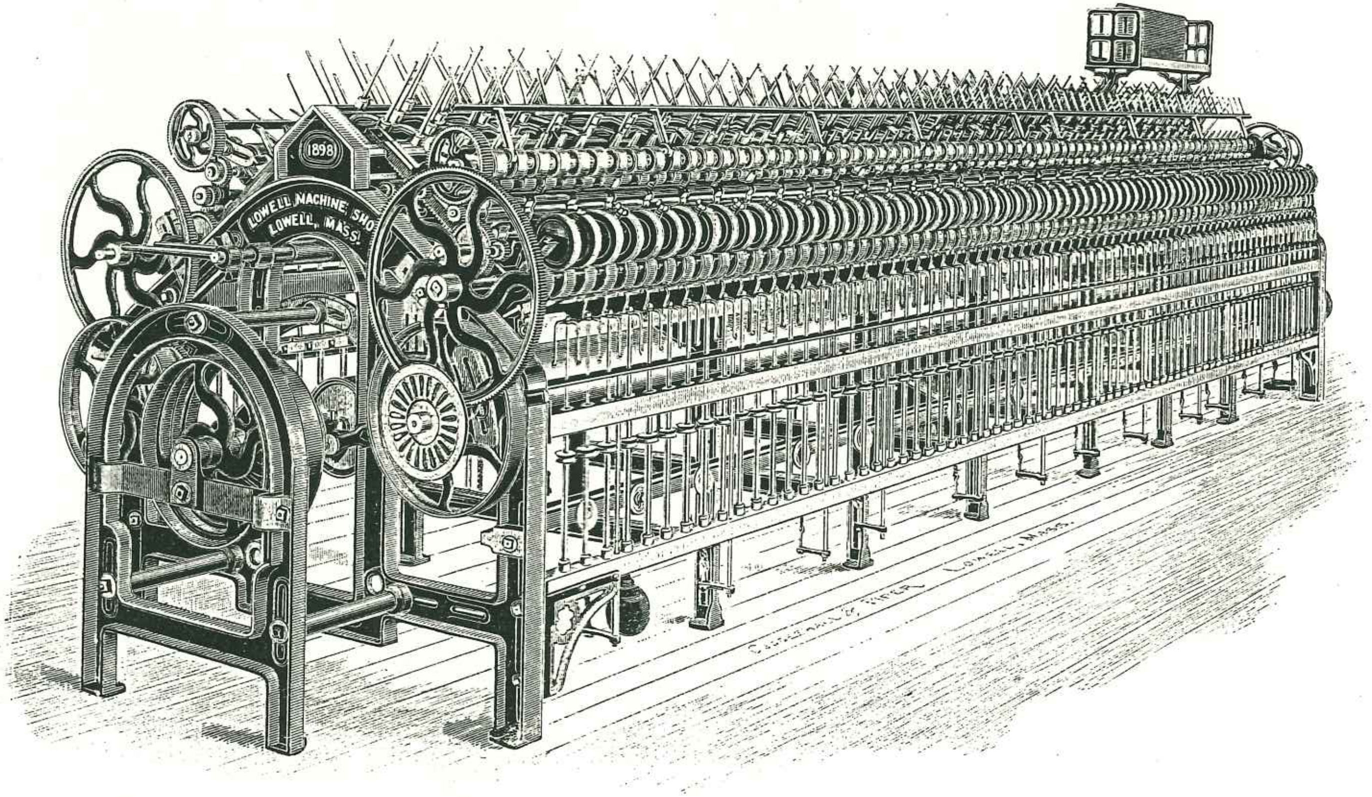
SPINDLES are perfectly true and straight, and are made of best spindle steel. Any kind of spindle can be furnished.

STUDS are made of steel and thoroughly hardened.

WORKMANSHIP of the highest quality is assured through our having special machinery for doing the machine work, and competent workmen skilled upon some one part to do all that the machines cannot do.

CONNECTION FOR LOW FRONT ROLLS is in the usual clutch form, or made by screwing the rolls together. Any number of bosses to a length can be made, but eight is the usual number.

TENSION PULLEYS are of cast iron and carefully balanced.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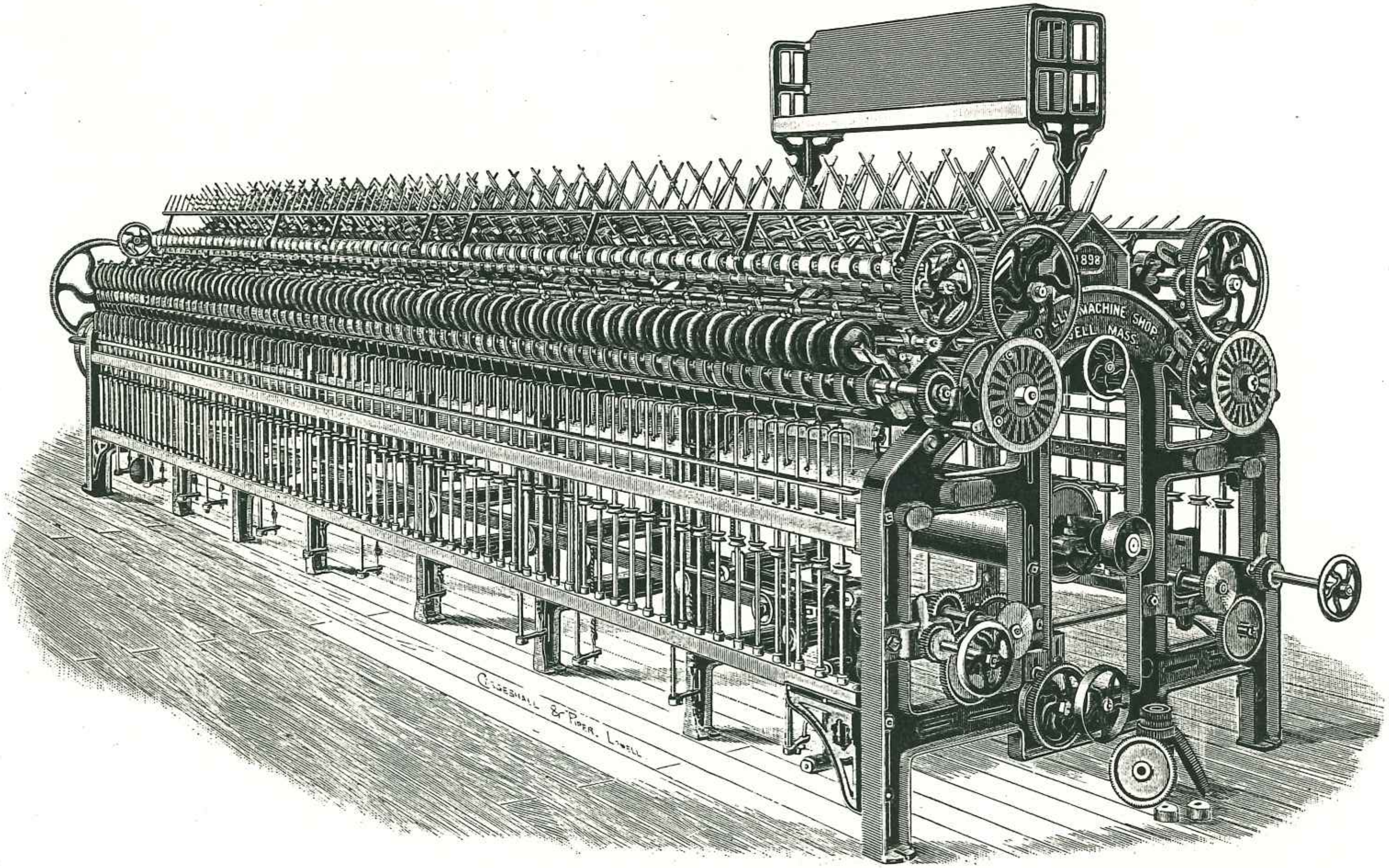
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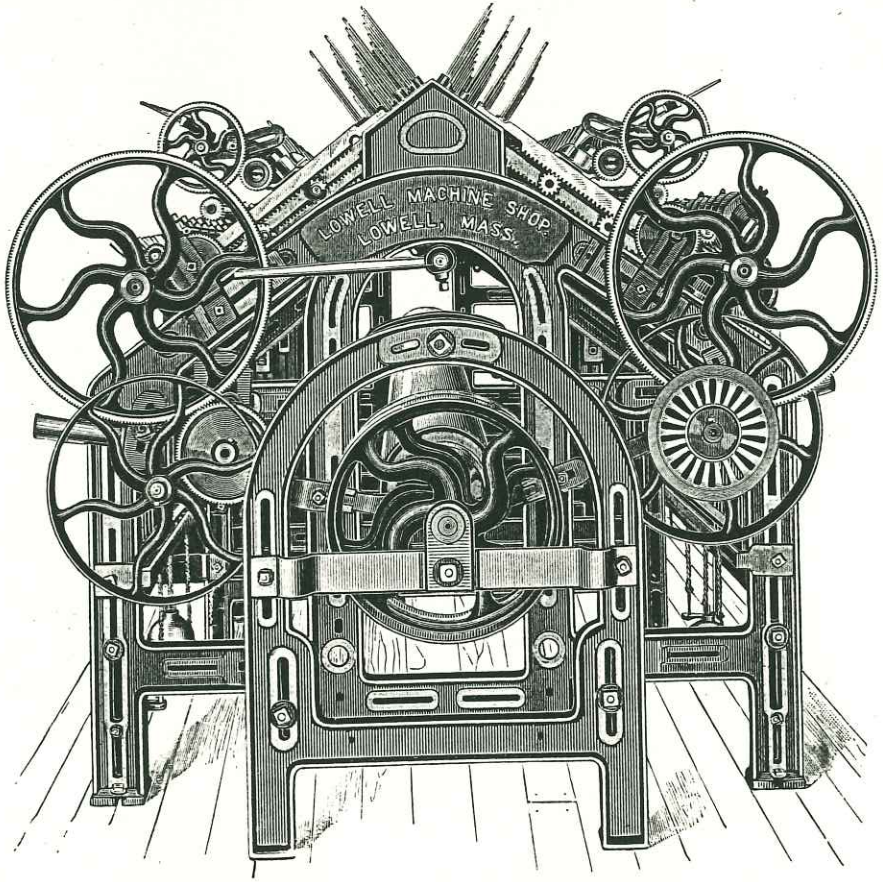
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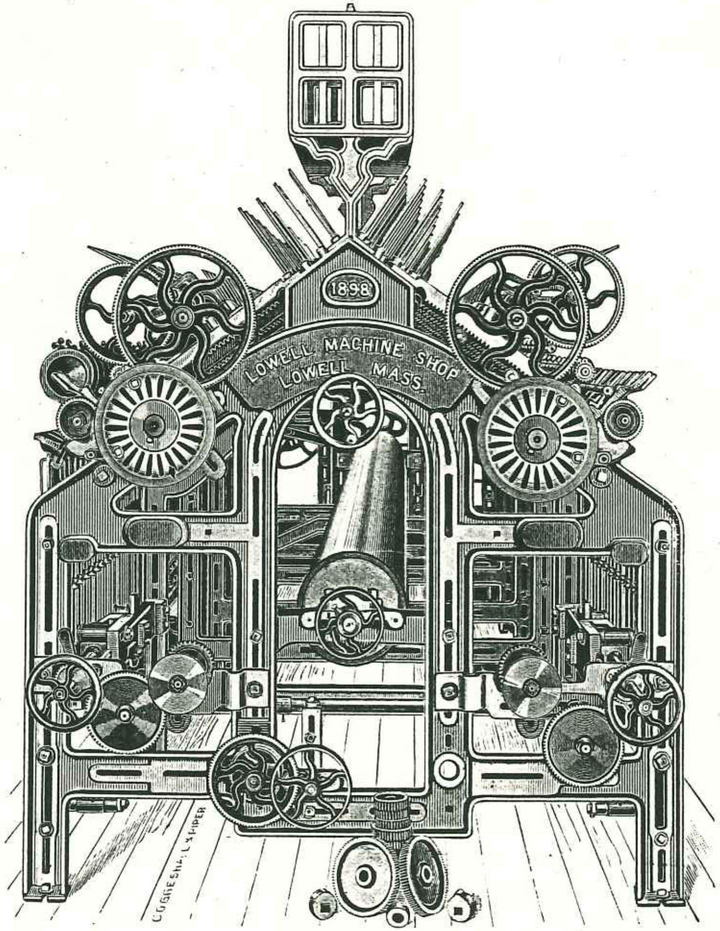
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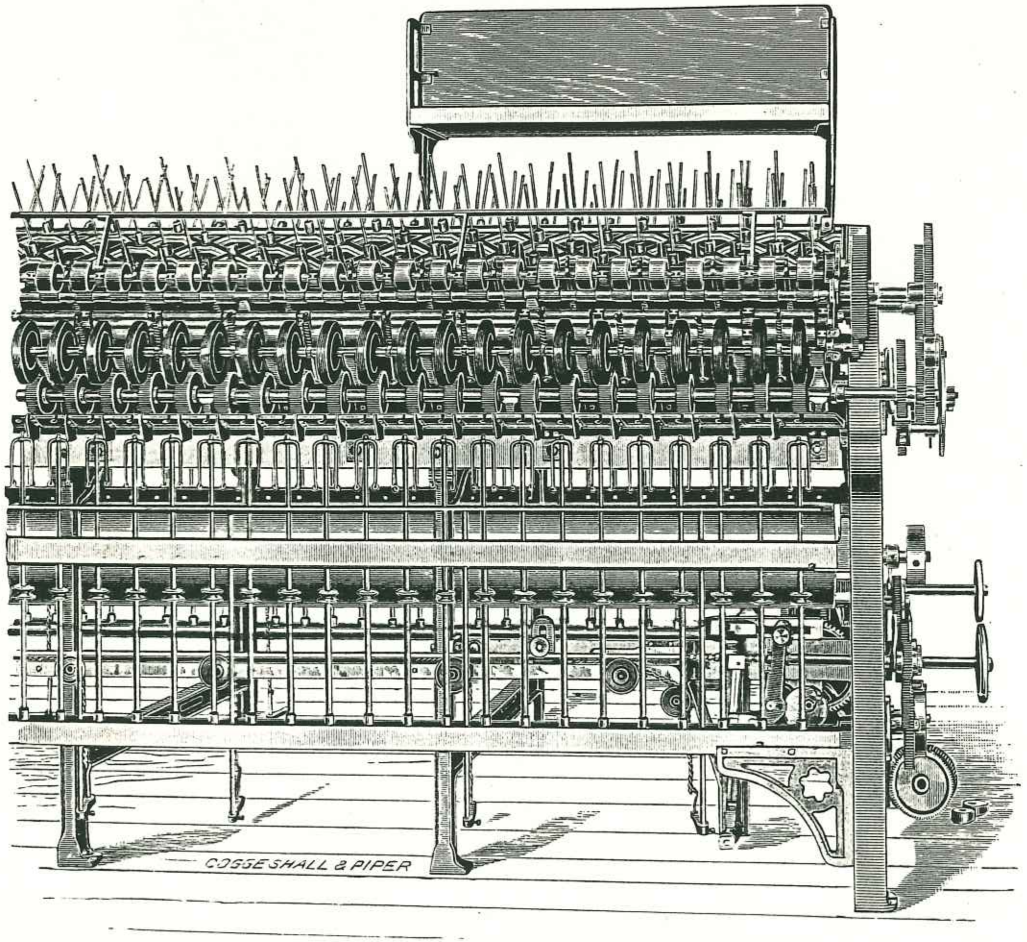
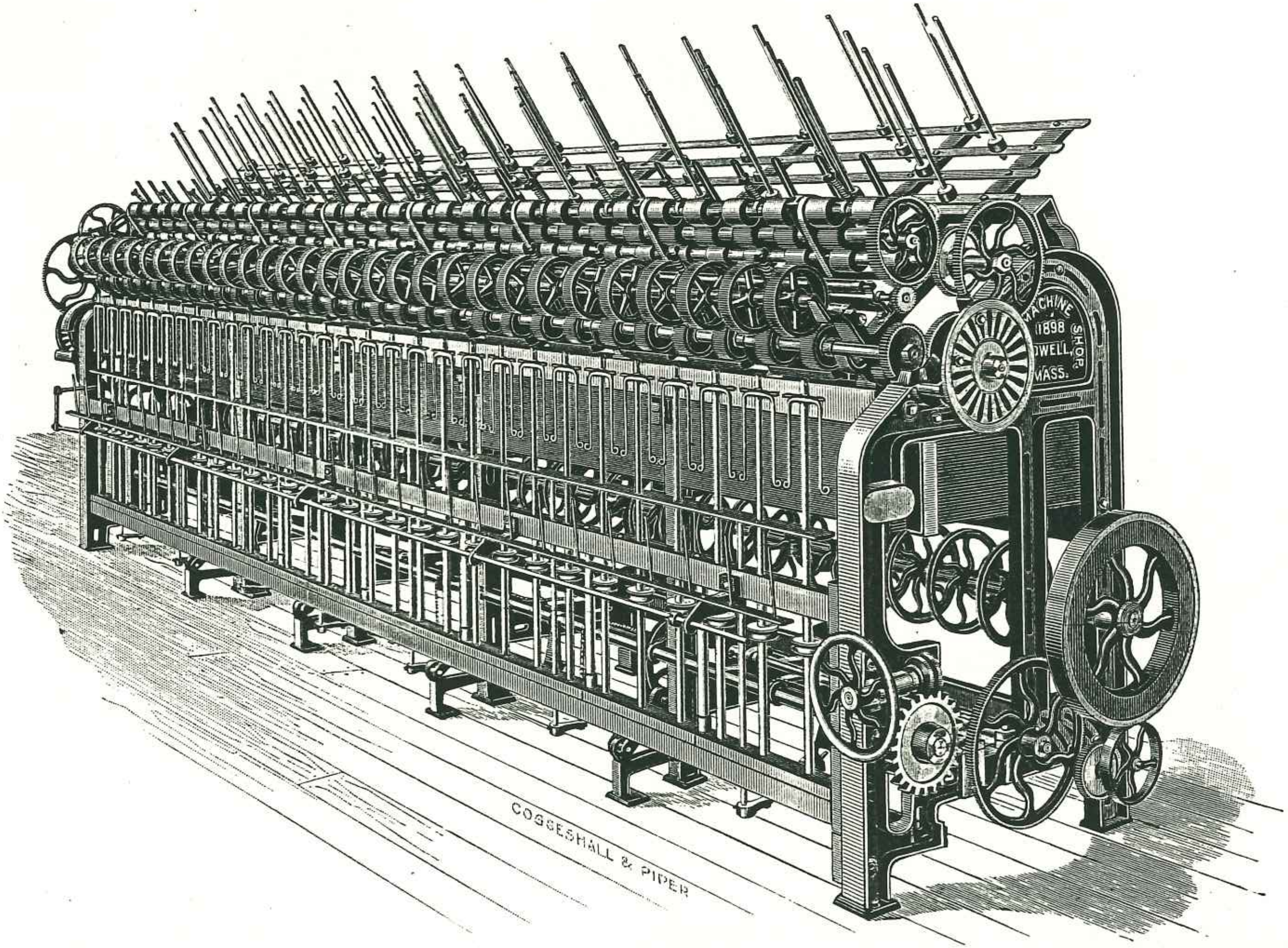

COGGESHALL & PIPER

We have made or are making Spinning, Roving, Drawing and Gill Boxes for:—

Massachusetts Mohair Plush Co.,	Lowell, Mass.
Woonsocket Worsted Mills,	Woonsocket, R. I.
Star Worsted Co.,	Fitchburg, Mass.
Lowell Manufacturing Co.,	Lowell, Mass.
Philadelphia Textile School,	Philadelphia, Pa.

Buy your Worsted Machinery in America. By doing so you will SAVE MONEY, get equally good machinery, save money and delays when in need of repairs, CREATE A HEALTHY COMPETITION which has heretofore not existed, and keep the money which would otherwise be distributed in England in this country, where it employs mechanics who MAKE A DEMAND FOR THE VERY GOODS THAT YOU MANUFACTURE.


MACHINE SHOP
1898
OWELL,
MASS.
COGGESHALL & PIPER

8-Spindle Finisher Drawing Box.

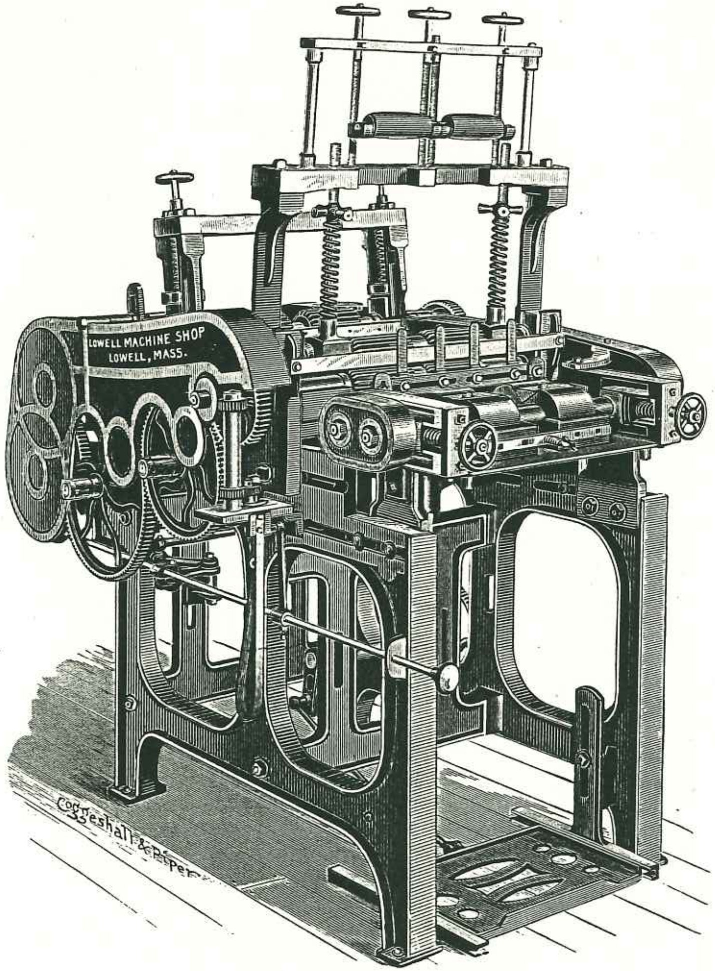
The Lowell Machine Shop's Finisher Drawing Boxes, like the preceding machinery, have been given every attention in material, workmanship and design. They are made with any number of spindles and of any gauge, have hard iron rollers and German steel fliers, iron top rolls, and knock-off motion when desired.

Drawing Boxes in General.

The Lowell Machine Shop's Drawing Boxes, two varieties of which are shown by the preceding cuts, are made with any number of spindles and in any form desirable for various kinds of work. The change GEARS ARE INTERCHANGEABLE upon all Drawing Boxes.

2-Spindle Gill Box.

Rolls are made of crucible steel and hard cast iron, screws are made of steel and hardened, the cams are carefully made and fitted, the fallers are imported from the best makers. All studs are hardened. Gears and screws correspond in pitch to those in the other machines which we make for drawing worsted.


LOWELL MACHINE SHOP
LOWELL, MASS.
Coggeshall & Piper

Gill Boxes in General.

The Lowell Machine Shop is prepared to undertake to fill orders for Gill Boxes for long or short, fine or coarse work, and for preparing or drawing.

Trap Twisters.

The Lowell Machine Shop has in preparation a Trap Twister which is not yet ready for the market.

Worsted Card.

The Lowell Machine Shop has in preparation a Card especially adapted for carding short stock, but are not yet ready to accept orders for them.

The following List of Parts has been added for convenience in ordering Repairs for Worsted Spinning Frames made by either the Lowell Machine Shop or Foreign Manufacturers.

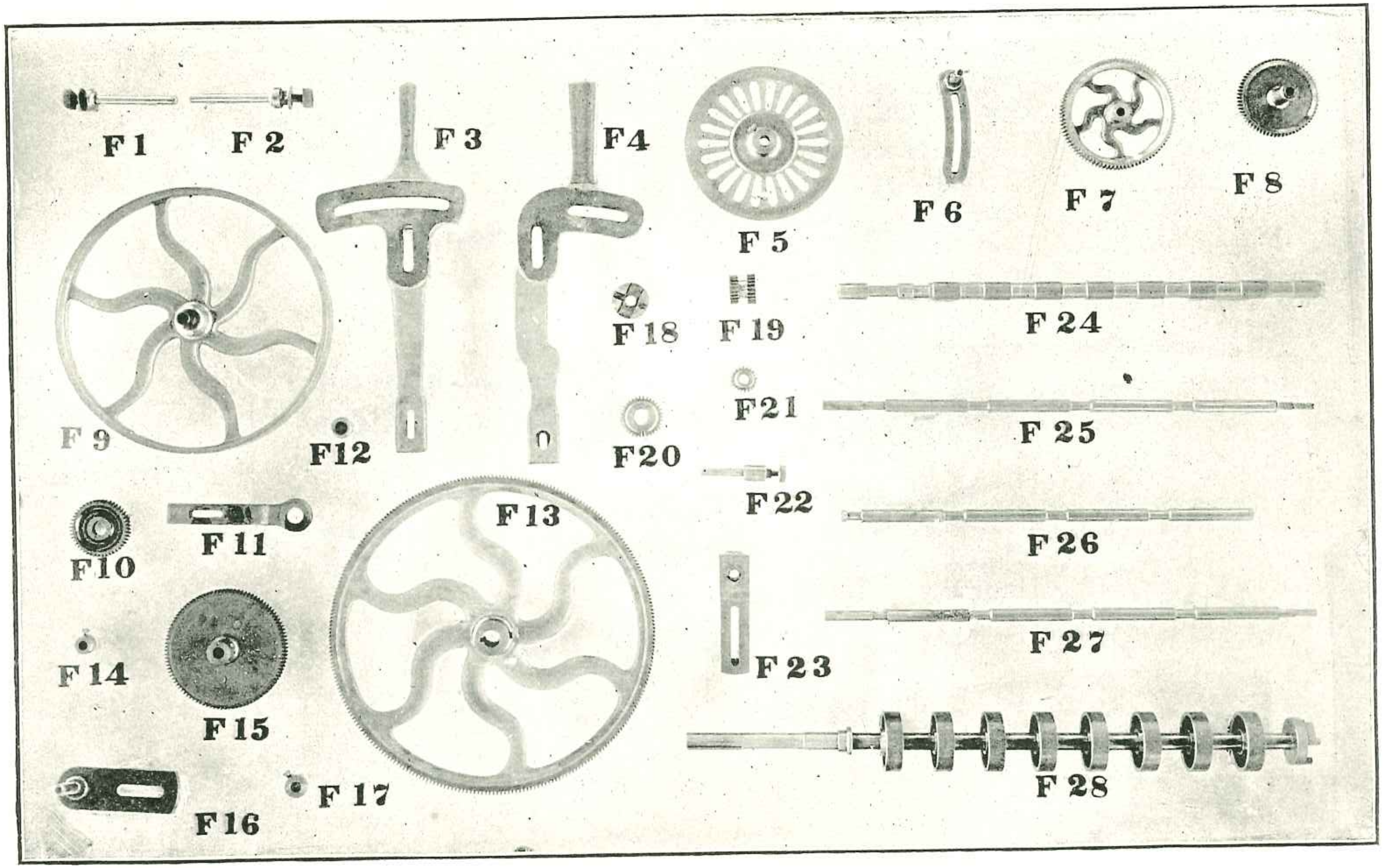
Please observe that it covers:

All parts used on Flyer Spinning Frames.

Parts for Cap Frames can be ordered from this catalogue AS FAR AS THEY CORRESPOND TO PARTS HEREIN ILLUSTRATED.

All pieces are finished to Standard Sizes by use of Special Machines and Jigs, so that when parts are ordered they will Fit their proper places Without Trouble.

Parts should be Ordered by NUMBERS.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Parts for Worsted Flyer Spinning Frame.

1898.

ORDERING NO.		SHOP NO.
F 1	Twist Pulley Stud, (Short),	268
F 2	Twist Pulley Stud, (Long),	271
F 3	Lever for Twist Pulley, (Straight Arm),	39,043
F 4	Lever for Twist Pulley, (Curved Arm),	39,044
F 5	Circular Guard for Twist Gear,	38,996
F 6	Stud Plate for Carrier Int. Gear, (Give Hand),	38,992
	Stud for Carrier Int. Gear, (Head end),	262
F 7	Carrier Int. Gear 90th., (Arm),	38,986
F 8	Carrier Int. Gear 65th., (Web),	39,072
F 9	Twist Pulley 18 in diameter,	39,074
F 10	Change Gear, 22th. (Give No. of teeth),	39,333
	" " 23	39,334
	" " 24	39,335
	" " 25	39,336
	" " 26	39,337
	" " 27	39,338
	" " 28	39,339
	" " 29	39,340
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	" " 31	39,342
	" " 32	39,343
	" " 33	39,344
	" " 34	39,345
	" " 35	39,346
	" " 36	39,347
F 10	Change Gear, 37th. (Give No. of teeth),	39,348
	" " 38	39,063
	" " 39	39,349
	" " 40	39,064
	" " 41	39,350
	" " 42	39,065
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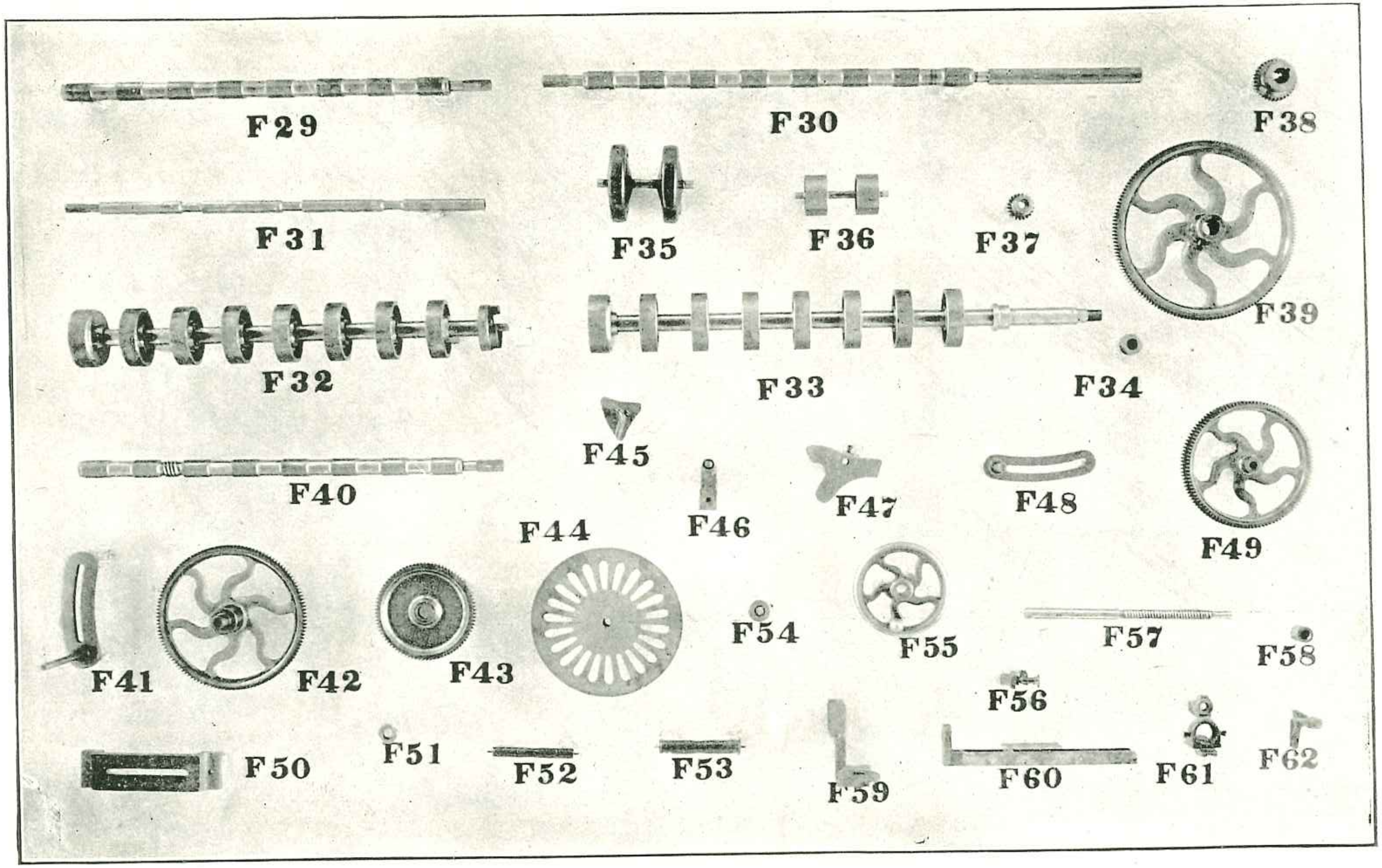
	" " 64	39,360
	" " 66	39,421
	" " 68	39,422
	" " 70	39,423
F 11	Extension Arm for Twist Pulley Lever,	39,041
F 12	Nut for Twist Pulley Quill,	302
F 13	Front Roll Gear 268th.,	38,988
F 14	Collar for Twist Pulley Stud,	39,078
F 15	Twist Int. Gear 100th,	39,062
F 16	Twist Int. Stud,	254
	Twist Int. Stud Plate,	39,071
F 17	Twist Int. Stud Collar,	505
F 18	Collar for fastening Twist Lever to Frame End,	39,042
F 19	Back Carrier Roll Gear, 23th., (Hub),	39,095
	Back Carrier Roll Gear, 23th., (without Hub),	39,096
F 20	Back Roll Gear, 34th.,	39,117
F 21	Front Carrier Roll Gear, 20th.,	39,097
F 22	Stud for Carrier Int. Gear,	276
F 23	Stud Plate for Carrier Gear,	39,073
F 24	Head End Back Fluted Roll,	298
F 25	Carrier Roll, Head End, Driving,	296
F 26	Carrier Roll, Head End, Driven,	295
F 27	Carrier Roll, Head End, Front Roll,	297
F 28	Head End Front Roll Arbor,	329
	Collar for Head End Front Roll Arbor,	328
	Front Roll Blank,	39,139
	Key for Head End Front Roll Arbor,	350
	Male Piece, Front Roll Clutch,	39,138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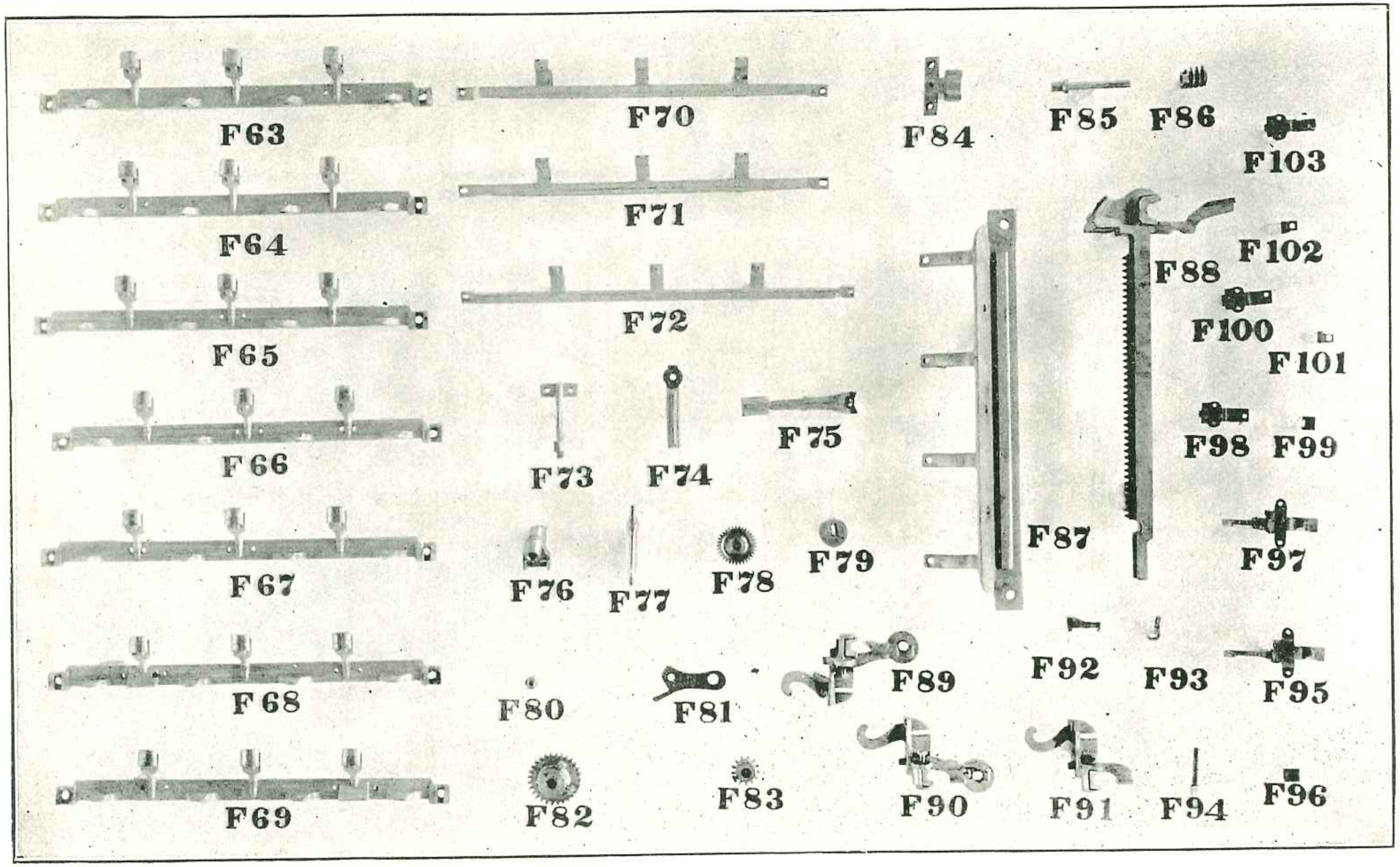
Parts for Worsted Flyer Spinning Frame.

ORDERING NO.		SHOP NO.
F 29	Int. Back Fluted Roll,	299
F 30	Foot End Back Fluted Roll,	301
	Key for Foot End Back Fluted Roll,	347
F 31	Carrier Roll, (Int. Length),	294
F 32	Int. Front Roll Arbor,	330
	Male Piece, Front Roll Clutch,	39,138
	Front Roll Blank,	39,139
	Female Piece, Front Roll Clutch,	39,140
F 33	Foot End Front Roll Arbor,	327
	Front Roll Blank,	39,139
	Female Piece, Front Roll Clutch,	39,140
	Collar for Foot End Front Roll Arbor,	326
F 34	Nut for Front Roll Arbor,	107
F 35	Front Top Roll,	15
	Front Top Roll Arbor,	252
F 36	Back Top Roll,	39,147
	Back Top Roll Arbor,	274
F 37	Middle Carrier Roll Gear, 21th., Foot End,	39,098
F 38	Back Roll Gear, 34th., Foot End, (Keyway),	39,117
F 39	Back Roll Gear, 155th., (Keyway),	39 061
F 40	3rd Head End Back Fluted Roll,	300
F 41	Stud Plate for Draft Int. Gear, (Give Hand),	38,993
	Stud for Draft Int. Gear,	264
F 42	Draft Int. Gear 125th, (with Quill),	38,989
F 43	Draft Change Gear, 83th.,	38,990
	Draft Change Gear, 84th.,	38,991

ORDERING NO.		SHOP NO.
F 44	Circular Guard for Double Stud,	38,995
F 45	V Guard for Double Stud,	38,994
F 46	Stand for V Guard,	39,051
	Stud for Draft Gear Cover Stand,	267
F 47	Guard for Double Stud and Front Roll Gear,	39,050
F 48	Stud Plate for Carrier Int. Gear, (Foot End), (Give Hand),	38,992
	Stud for Carrier Int. Gear, (Foot End),	266
F 49	Carrier Int. Gear, 108th.,	38,987
F 50	Stud Plate on Frame End,	39,142
F 51	Nut for Draft Int.,	287
F 52	Front and Middle Carrier Top Roll,	23
	Pin for Front and Middle Carrier Top Roll,	345
F 53	Back Carrier Top Roll,	22
	Pin for Back Carrier Top Roll,	345
F 54	Shipper Screw Collar,	39,025
F 55	Hand Wheel for Shipper Screw,	39,137
	Shipper Hand Wheel Handle,	39,213
F 56	Bolt for Shipper Screw Slide,	337
F 57	Shipper Screw,	308
F 58	Shipper Screw Nut, (Brass),	39,026
F 59	Shipper Stand,	39,024
F 60	Shipper Support,	39,023
F 61	Shipper Screw Slide,	39,027
F 62	Shipper Screw Bearing,	39,028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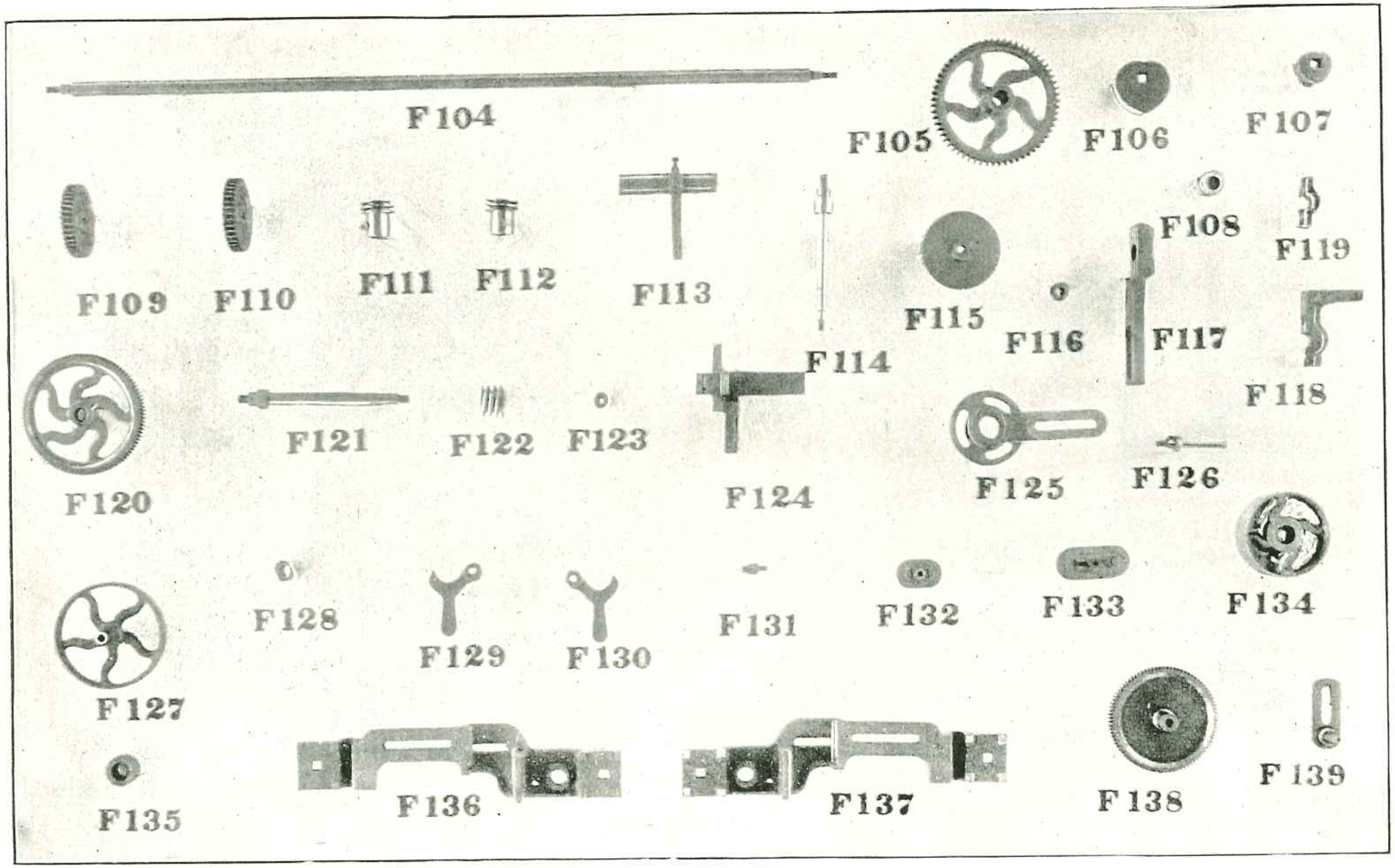
Parts for Worsted Flyer Spinning Frame.

ORDERING NO.		SHOP NO.
F 63	Back Saddle Bar, Tapped for Doffing Rail Stand,	39,121
F 64	" " " " " " "	39,121
F 65	" " " " " " "	39,121
F 66	" " " " " Roving Trav. Bracket, R.H.,	39,121
F 67	" " " " " Roving Trav. Bracket, L.H.,	39,121
F 68	" " " with recess for Worm Stand, R. H.,	39,122
F 69	" " " with recess for Worm Stand, L. H.,	39,123
F 70	Back Carrier Bar,	39,133
F 71	Middle Carrier Bar,	39,156
F 72	Front Carrier Bar,	39,132
F 73	Doffing Rail Stand,	39,125
F 74	Doffing Rail Bracket,	39,124
F 75	Front Saddle Bar Partition Stand,	39,087
F 76	Stand for Traverse Motion,	39,128
F 77	Roving Traverse Cam Stud,	272
F 78	Traverse Worm Gear, 33th.,	39,130
F 79	Roving Traverse Cam,	39,129
F 80	Nut for Traverse Worm Gear Stud,	39,171
F 81	Finger for Wind-up Motion,	39,118
F 82	Worm Gear, 28th., for winding up Back Roll,	39,120
F 83	Rack Gear, 13th., for adj., Roll Stand, (give size of hole),	39,119
F 84	Stand for Wind-up Motion,	39,126
F 85	Stud for Back Roll adj. Worm,	269
F 86	Worm for Wind-up Motion,	39,127
F 87	Front Saddle Bar,	39,088
F 88	Front Roller Stand,	39,191
	Front Roller Bushing, (Brass),	39,188
F 89	Back Roll End Stand, L. H.,	39,185
	Back Roller Bushing, (Brass),	39,187
F 90	Back Roll End Stand, R. H.,	39,186
	Back Roll Bushing, (Brass),	39,187
F 91	Back Roller Stand, Int.,	39,040
	Back Roller Bushing, (Brass),	39,187
F 92	Bolt for Carrier Int., Stud Plate,	39,506
F 93	Middle and Back Carrier Stand Hook, (Brass),	39,197
F 94	Back Roll Screw,	261
F 95	Back Carrier Stand,	39,182
F 96	Nut for Back Roll Stand,	39,190
F 97	Middle Carrier Stand,	39,183
F 98	Front Carrier Stand, R. H., (Head End),	39,194
F 99	Nut for Front, Middle and Back Carrier Stand,	39,189
F 100	Front Carrier Stand, L. H., (Head End),	39,194
F 101	Front Carrier Stand, Cap, R. H., (Head End),	39,195
F 102	Front Carrier Stand, Cap, L. H., (Head End),	39,196
F 103	Front Carrier Stand,	39,184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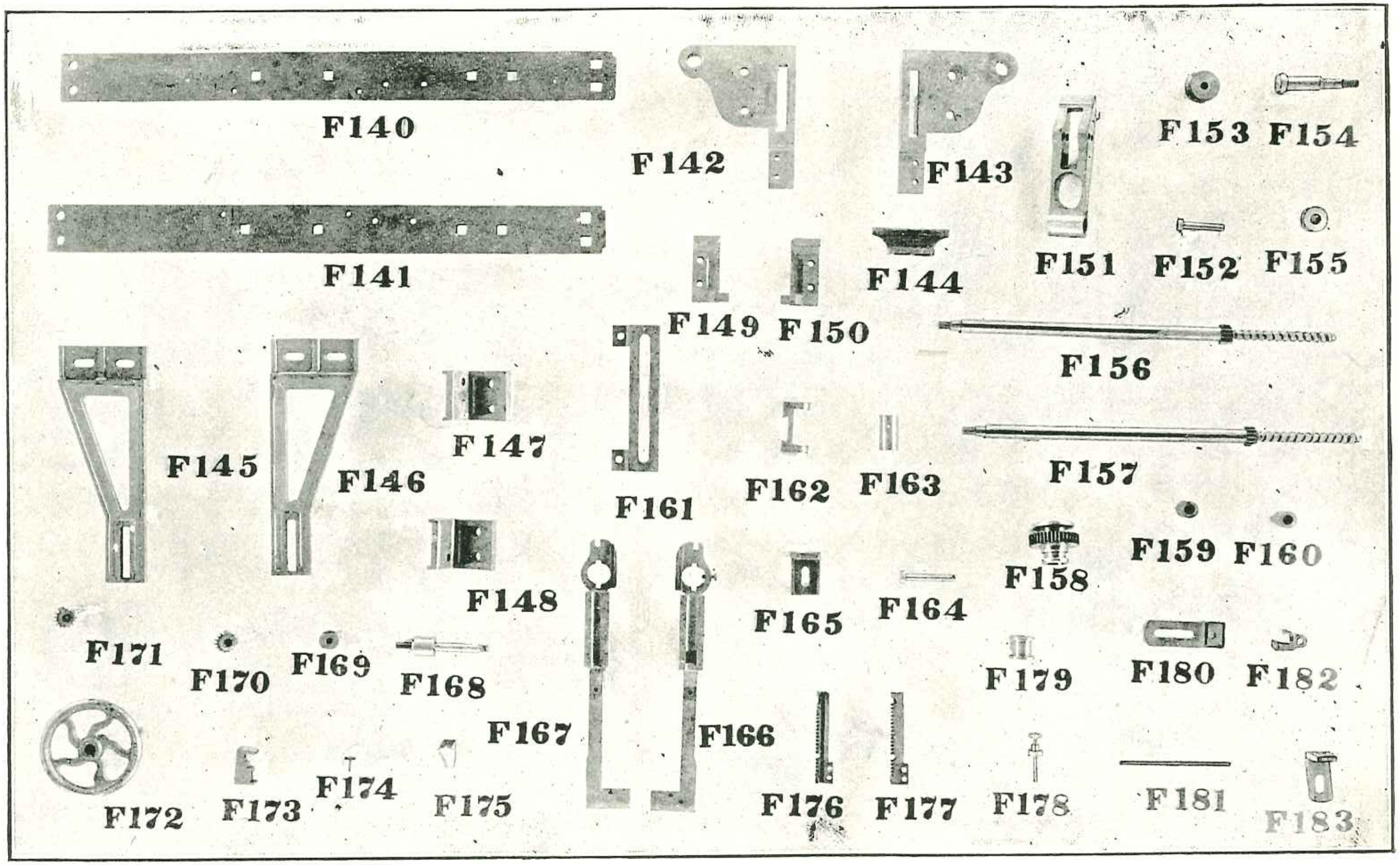
Parts for Worsted Flyer Spinning Frame.

ORDERING NO.		SHOP NO.
F 104	Cross Shaft,	305
F 105	L. H. Worm Gear on Cross Shaft,	39,060
F 106	Filling Heart,	39,143
F 107	Warp Heart,	39,144
F 108	Cross Shaft Collar,	39,145
F 109	Worm Gear 40th., on Worm Stud, R. H.,	39,079
F 110	Worm Gear 40th., on Worm Stud, L. H.,	39,181
F 111	Cross Shaft Worm, R. H.,	39,146
F 112	Cross Shaft Worm, L. H.,	39,146
F 113	Swan Neck,	39,077
F 114	Worm Stud in Swan Neck,	275
F 115	Guard Plate for Swan Neck,	39,080
F 116	Nut for Worm Stud,	39,076
F 117	Stay for Cross Shaft for Swan Neck,	39,084
F 118	Extenston for Cross Shaft Stay,	39,085
F 119	Cap for Cross Shaft Stay,	39,086
F 120	Spur Gear 100th., on Worm Stud,	39,092
F 121	Worm Shaft,	278
F 122	L. H. Worm, Driving Cross Shaft,	39,165

ORDERING NO.		SHOP NO.
F 123	Nut for Worm Shaft,	39,076
F 124	Bearing for Worm Shaft, driving Cross Shaft,	39,020
F 125	Link for Worm Shaft Bearing,	39,168
F 126	Lifter Pulley Stud,	265
F 127	Lifter Pulley with Quill,	39,167
F 128	Nut for Lifter Pulley,	284
F 129	Lock for Screw Shaft, R. H.,	38,980
F 130	Lock for Screw Shaft, L. H.,	38,981
F 131	Barrel Screw for Builder Lock,	253
F 132	Small Plate to cover Slot in Frame End,	39,059
F 133	Large Plate to cover Slot in Frame End,	39,150
F 134	Pulley for driving Lifter, (on Cyl. Shaft),	39,166
F 135	Pulley on Cyl. Shaft,	39,164
F 136	Bar for Int. Gearing and Swan Neck, R. H.,	38,978
F 137	Bar for Int. Gearing and Swan Neck, L. H.,	38,979
F 138	Int. Gear, 88th., for Builder Motion,	39,093
F 139	Stud Plate for Int. Gear 88th.,	39,094
	Stud Plate for Int. Gear 88th.,	280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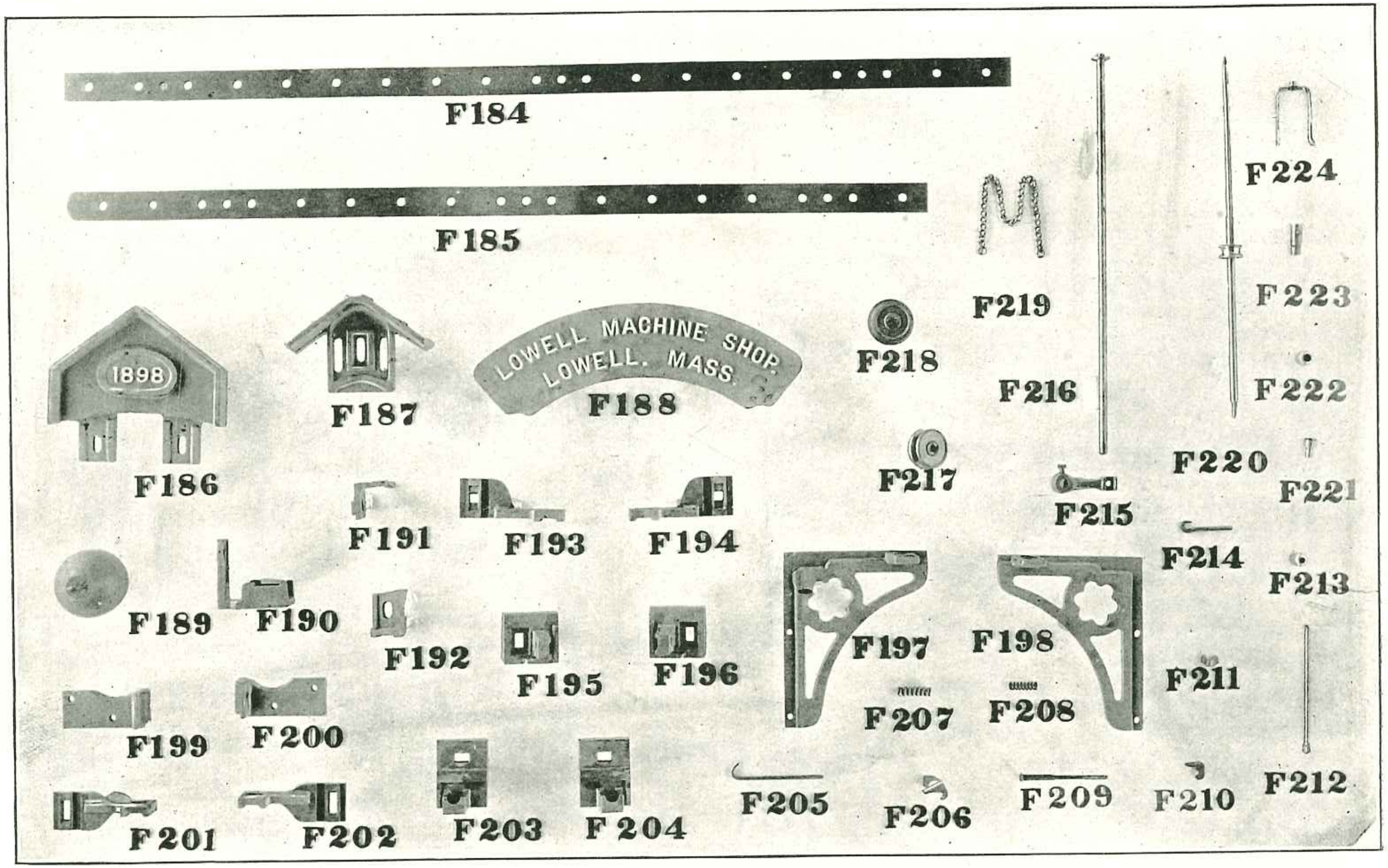
Parts for Worsted Flyer Spinning Frame.

ORDERING NO.		SHOP NO.
F 140	Main Stay for Builder Motion, R. H.,	38,997
F 141	Main Stay for Builder Motion, L. H.,	38,997
F 142	Cross Shaft Rod End Iron, R. H.,	39,004
F 143	Cross Shaft Rod End Iron, L. H.,	39,005
F 144	Guide for Long Lever,	39,006
F 145	Long Lever Stand, R. H.,	39,081
F 146	Long Lever Stand, L. H.,	39,082
F 147	Bracket for Main Stay, R. H.,	39,206
F 148	Bracket for Main Stay, L. H.,	39,206
F 149	Rod End Iron on Chain Rod, R. H.,	39,018
F 150	Rod End Iron on Chain Rod, L. H.,	39,019
F 151	Short Lever,	39,007
F 152	Stud for Builder Roll in Short Lever,	273
F 153	Roll for Heart in Short Lever,	39,002
F 154	Builder Stud,	259
F 155	Collar for Short Lever Stud,	39,003
F 156	Builder Screw, R. H.,	310
	Rack Gear for Wind-up Rack, R. H. (Steel),	39,162
F 157	Builder Screw, L .H.,	311
	Rack Gear for Wind-up Rack, L. H. (Steel),	39,163
F 158	Wind-up Gear for Screw Shaft 40th.,	39,075
	Key for Wind-up Gear for Screw Shaft 40th.	
F 159	Builder Screw Nut, R. H., (Brass),	39,016
F 160	Builder Screw Nut, L. H., (Brass),	39,016
F 161	Slide for Chain Rod End Iron,	38,999
F 162	Roll Stand on Rack,	39,012

ORDERING NO.		SHOP NO.
F 163	Roll for Roll Stand,	39,013
F 164	Stud for Builder Roll,	270
F 165	Stand for Bracket for Chain Pulley Rod,	39,001
F 166	Long Lever, R. H.,	39,008
	Special Set Screw.	
F 167	Long Lever, L. H.,	39,009
	Special Set Screw.	
F 168	Builder Arm Stud,	260
F 169	Nut for Long Lever Stud,	39,083
F 170	Rack Gear for Wind-up Rack, R. H. (Steel),	39,162
F 171	Rack Gear for Wind-up Rack, L. H. (Steel),	39,163
F 172	Hand Wheel for Screw Shaft,	39,022
F 173	Rack Guide,	39,011
F 174	Latch for Rack,	420
F 175	Spring for Latch,	421
F 176	Rack for Builder, R. H. (On Long Lever),	39,014
	Pin for tension Latch.	
F 177	Rack for Builder, L. H. (On Long Lever),	39,016
	Pin for tension Latch.	
F 178	Stud for Lifter Rod Guide Roll,	251
F 179	Binder Roll for Chain Rod,	39,192
F 180	Binder Stand for Chain Rod,	39,034
F 181	Rack adj. Screw,	279
F 182	Dog for Rack adj. Screw,	39,010
F 183	Bracket for Chain Pulley Rod,	39,000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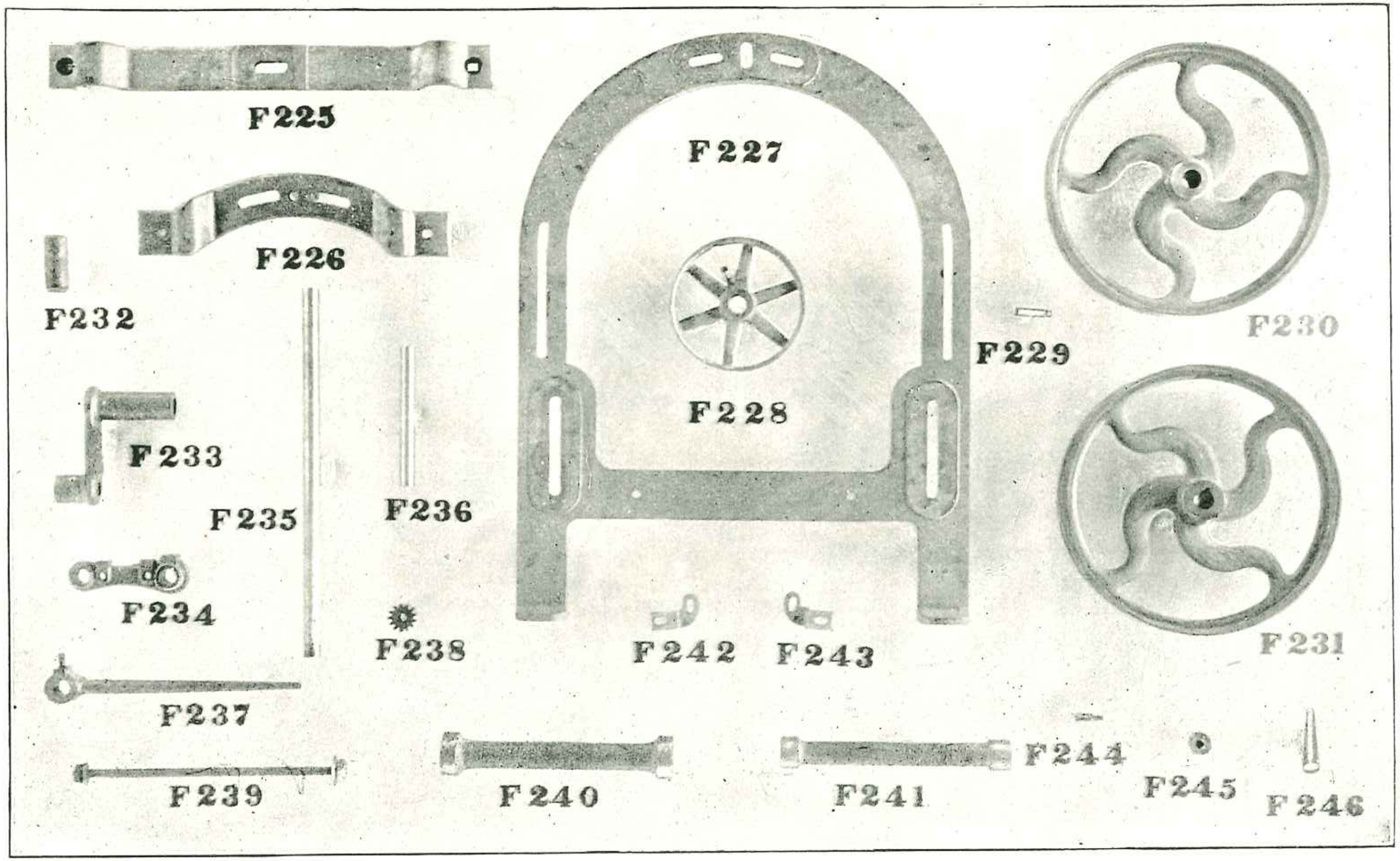
Parts for Worsted Flyer Spinning Frame.

ORDERING NO.		SHOP NO.
F 184	Middle Lifter Ptate,	283
F 185	End Lifter Plate,	282
F 186	Frame End Head for Roving Board,	39,021
F 187	Cap for Bearer,	38,977
F 188	Name Plate,	39,143
F 189	Counter Weight,	39,052
	Staple for Counter Weight,	288
F 190	Bracket for Chain Pulley Rod, (Driving End),	39,035
F 191	Bracket for Chain Pulley Rod on Bearer,	39,112
F 192	Beam Block for Middle Bearer,	39,111
F 193	Bottom Rail Stand, R. H.,	39,210
F 194	Bottom Rail Stand, L. H.,	39,211
F 195	Bottom Rail End, R. H.,	39,109
F 196	Bottom Rail End, L. H.,	39,110
F 197	Corner Plate, R. H., for Bottom Rail,	38,975
F 198	Corner Plate, L. H., for Bottom Rail,	38,976
F 199	Beam Block for Frame End, L. H.,	39,104
F 200	Beam Block for Frame End, R. H.,	39,105
F 201	Top Rail Stand, R. H.,	39,208
F 202	Top Rail Stand, L. H.,	39,209
F 203	Top Rail End, R. H.,	39,107
F 204	Top Rail End, L. H.,	39,108

ORDERING NO.		SHOP NO.
F 205	Front Top Roll Tension Rod.	255
F 206	Front Hanger Bearing, (Brass),	39,090
F 207	Front Top Roll Tension Spring,	332
F 208	Back Top Roll Tension Spring,	331
F 209	Back Top Roll Hanger Bolt,	250
F 210	Back Hanger Bearing, (Brass),	39,131
F 211	Front and Back Hanger Nut, (Brass),	39,089
F 212	Creel Pin,	312
F 213	Step for Roving Bobbin,	39,198
F 214	Lifter Rod Hook,	263
F 215	Dog for Lifting Spindle,	39,201
F 216	Lifting Rod,	317
F 217	Chain Pulley, (Small),	39,116
F 218	Chain Pulley, (Large),	39,115
F 219	Lifter Chain.	
F 220	Spindle,	335
	Whirl for Spindle,	39,056
F 221	Step, (Brass),	39,114
F 222	Step Cover,	39,199
F 223	Bolster, (Brass),	39,113
F 224	Flyer,	334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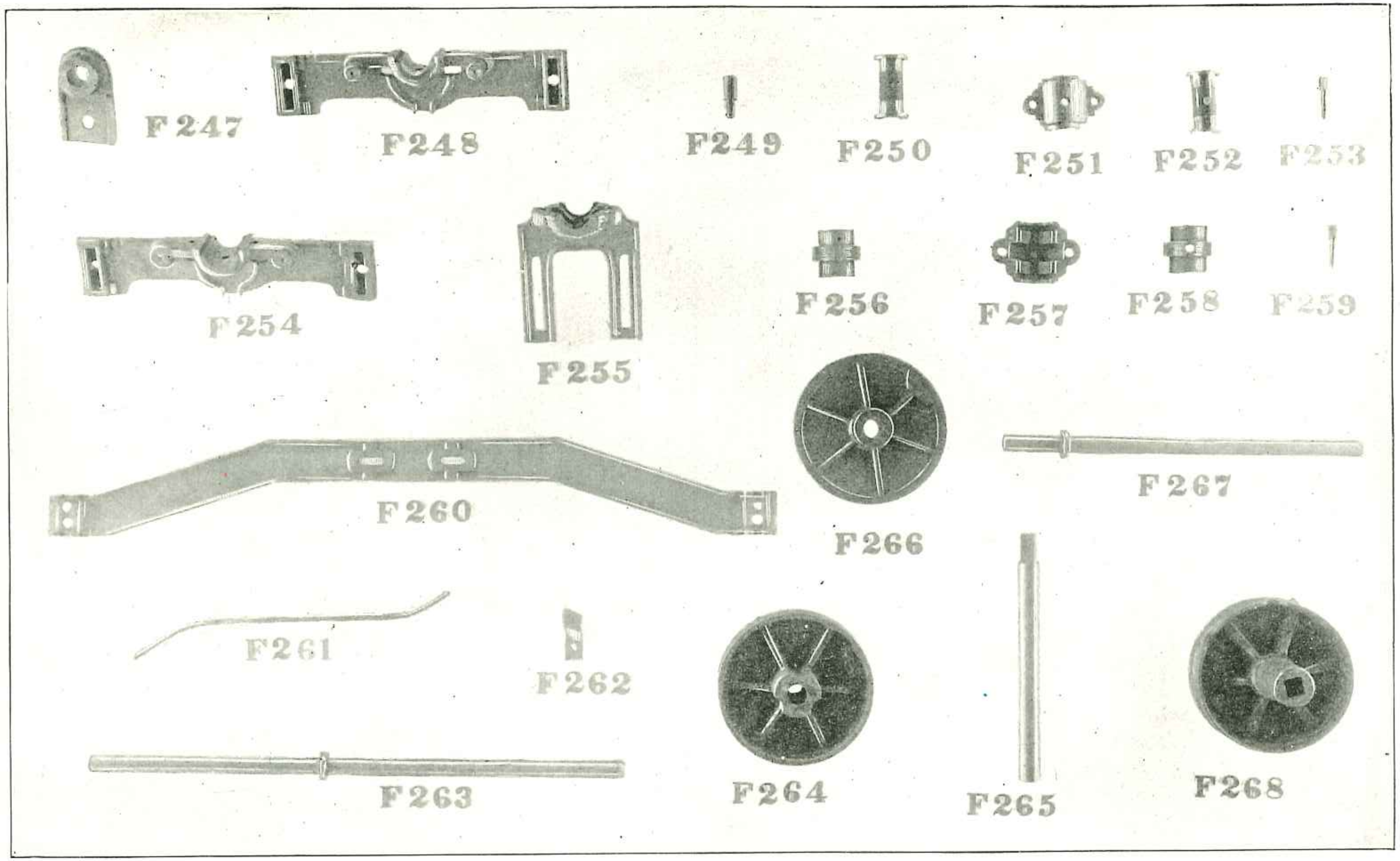
Parts for Worsted Flyer Spinning Frame.

ORDERING NO.		SHOP NO.
F 225	Stay for Cyl. End Bearing,	39.046
F 226	Stay for Little Frame End,	38.973
F 227	Little Frame End,	39,149
F 228	Twist Pulley on Cyl. Shaft, 9 in. dia.,	39,033
F 229	Lifter Pulley Stud,	281
F 230	Driving Pulley, (loose),	39.049
F 231	Driving Pulley, (tight) keyway,	39,049
F 232	Shipper Rod Coupling,	39,053
F 233	Pipe Box for Shipper Shaft,	39,045
F 234	Upright Bracket for Shipper Rod,	38,974
F 235	Shipper Shaft,	304
F 236	Shaft supporting Shipper Shaft,	316
F 237	Shipper Fork,	39,030
F 238	Back Gear 13th., (without hub),	39,029
F 239	Girt Rod,	306
F 240	Pillar for Little Frame End (Large),	39,031
F 241	Pillar for Little Frame End (Small),	39,032
F 242	Roving Guide Cam Roll Bracket, R. H.,	39,057
F 243	Roving Guide Cam Roll Bracket, L. H.,	39,058
F 244	Stud for Roving Traverse Rod Roll,	257
F 245	Roving Traverse Cam Roll,	39,054
F 246	Back Guide,	39,055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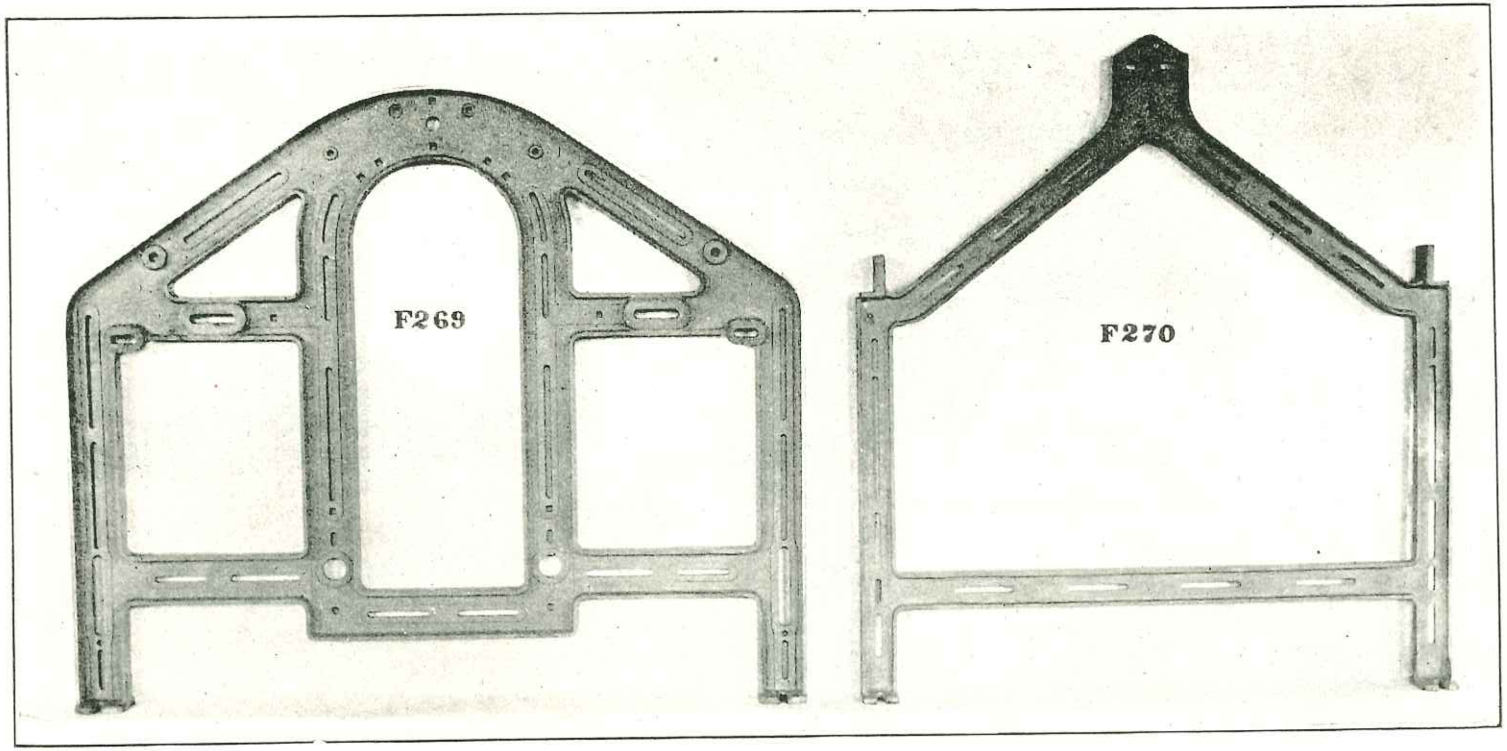
Parts for Worsted Flyer Spinning Frame.

ORDERING NO.		SHOP NO.
F 247	Outer Cyl. End Bearing,	39,047
	Bushing for Outer Cyl. End Bearing, (Brass),	39,048
F 248	Pedestal, (Head End),	38,982
	Twist Change Lever Stud,	277
F 249	Twist Change Lever Stud,	277
F 250	Bushing for Pedestal (Bottom), Brass,	38,985
F 251	Pedestal Cap,	38,983
F 252	Bushing for Pedestal (Top), Brass,	38,984
F 253	Pedestal Cap Screw (Ends),	256
F 254	Pedestal (Foot End),	38,982
F 255	Pedestal for Middle Cyl. Bearing,	39,036
F 256	Pedestal Bushing for Middle Cyl. Top Bearing, (Brass),	39,038
F 257	Pedestal Cap, Middle Cyl. Bearing,	39,037

ORDERING NO.		SHOP NO.
F 258	Pedestal Bushing Middle Cyl. Bottom Bearing, (Brass),	39,038
F 259	Middle Pedestal Cap Screw,	258
F 260	Pedestal Bar,	39,039
F 261	Oil Pipe,	336
F 262	Oil Pipe Bracket for Middle Bearing,	39,193
F 263	Drum Shaft, (Head End),	318
	Key for Drum Shaft, (Head End),	514
F 264	Int. Drum Head, (Round Hole),	39,212
F 265	Drum Shaft for Centre,	319
F 266	End Drum Head,	39,207
F 267	Drum Shaft for Foot End,	320
F 268	Int. Drum Head, (Square Hole),	39,200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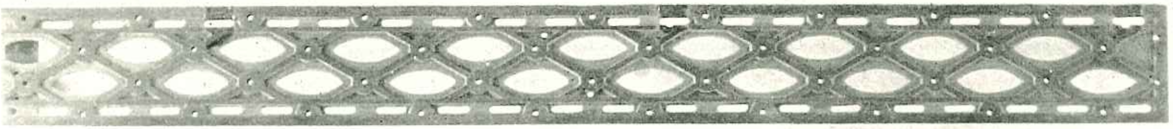
LOWELL MACHINE SHOP, LOWELL, MASS.

Parts for Worsted Flyer Spinning Frame.

ORDERING NO.		SHOP NO.
F 269	Frame End,	39,141
F 270	Middle Bearer,	39,205



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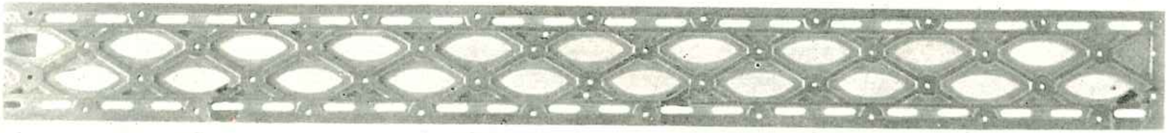

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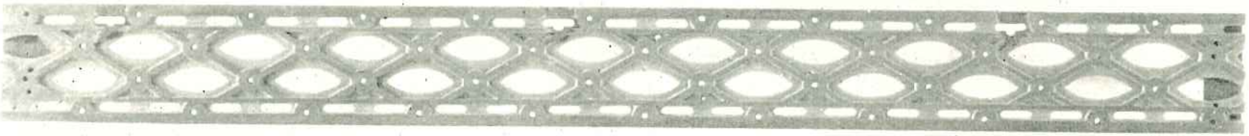

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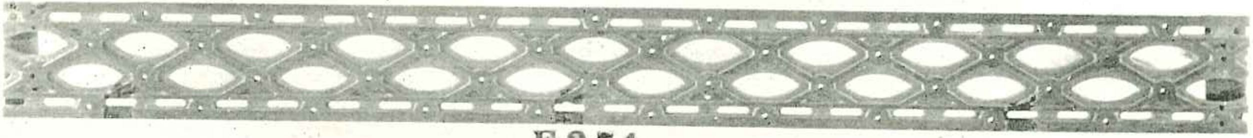

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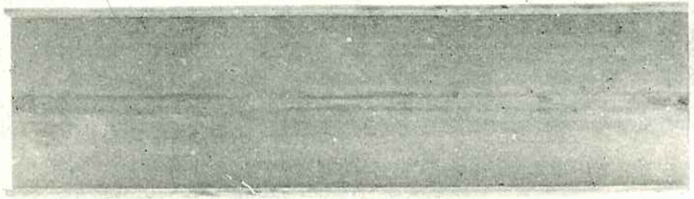
Parts for Worsted Flyer Spinning Frame.

ORDERING NO.		SHOP NO.
F 271	End Roving Board, R. H. (Give Length),	38,998
F 272	End Roving Board, L. H. (Give Length),	39,100
F 273	Int. Roving Board, R. H.,	39,136
F 274	Int. Roving Board, L. H.,	39,136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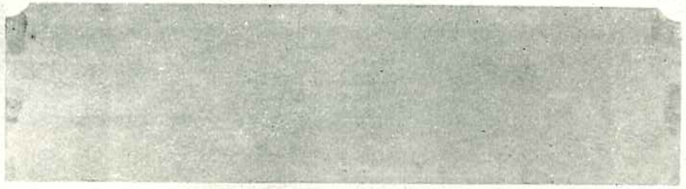
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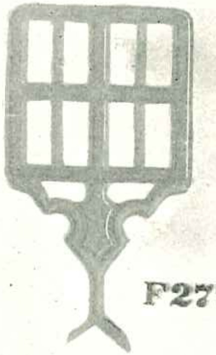
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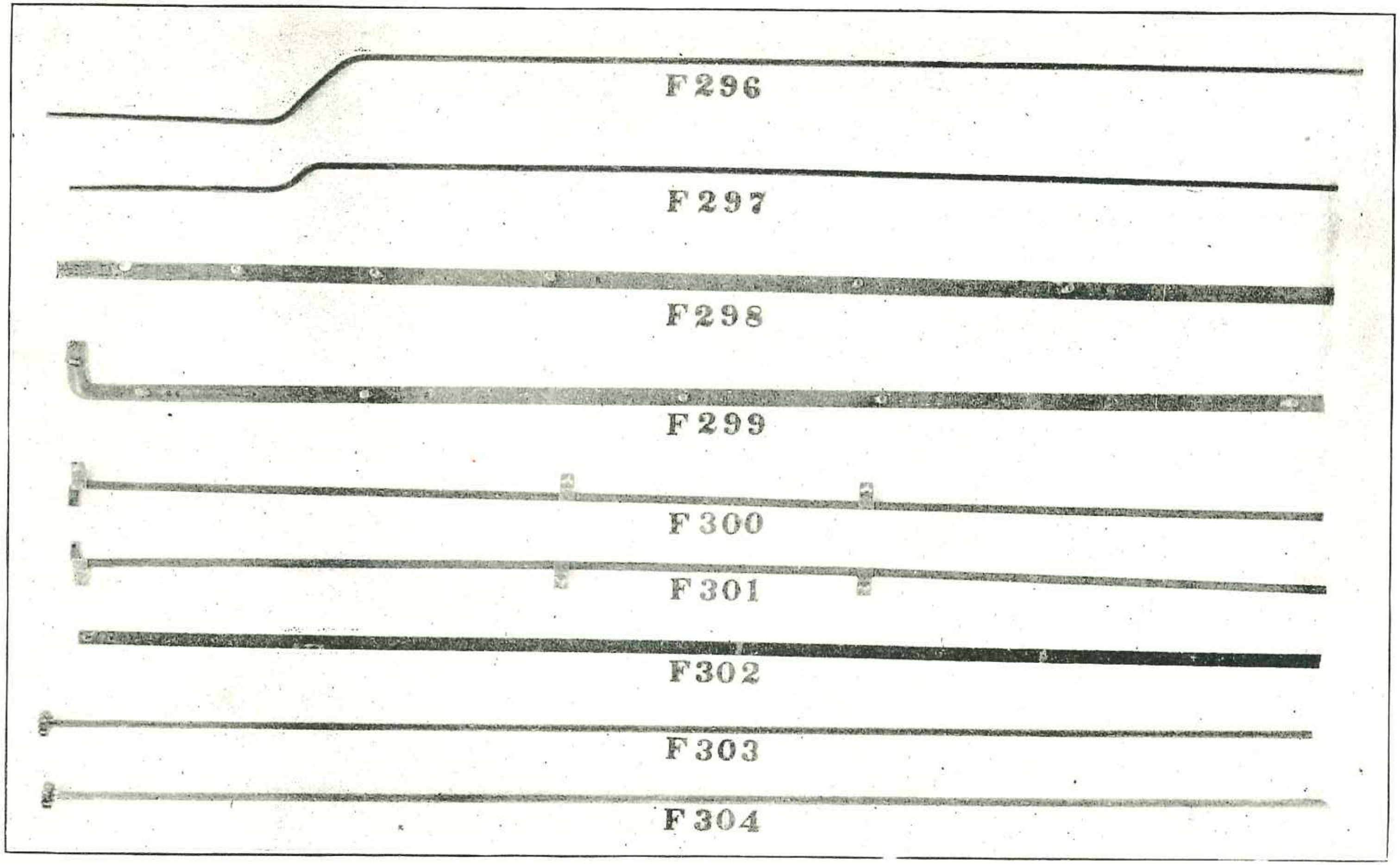
Parts for Worsted Flyer Spinning Frame.

ORDERING NO.		SHOP NO.
F 275	Roving Stand, (Bottom Board),	20
	Roving Stand, (Side Board),	21
F 276	Roving Stand, Upright,	19
F 277	Creel Bracket,	39,091
F 278	Fly Board and Hinges, (Head End), Short.	39,151
F 279	Fly Board and Hinges, Long,	39,152
F 280	Fly Board and Hinges, Middle, Long,	39,152
F 281	Fly Board and Hinges, (Foot End), Short.	39,151
F 282	Wire Board, R. H.,	11
F 283	Wire Board, Int., (Long),	14
F 284	Wire Board, Int., (Short),	13

ORDERING NO.		SHOP NO.
F 285	Wire Board, L. H.,	12
F 286	Separator Blade, R. H., Brass.	
F 287	Separator Blade, L. H., Brass.	
F 288	Fly Board Hinge.	
F 289	Wire Board Rod Hinge.	
F 290	Washer for Pot Eye,	325
F 291	Pot Eye.	
F 292	Fly Board Stay,	39,106
F 293	Wire Board Lifter,	39,202
F 294	Wire Board Lifter Stand, R. H.,	39,203
F 295	Wire Board Lifter Stand, L. H.,	39,204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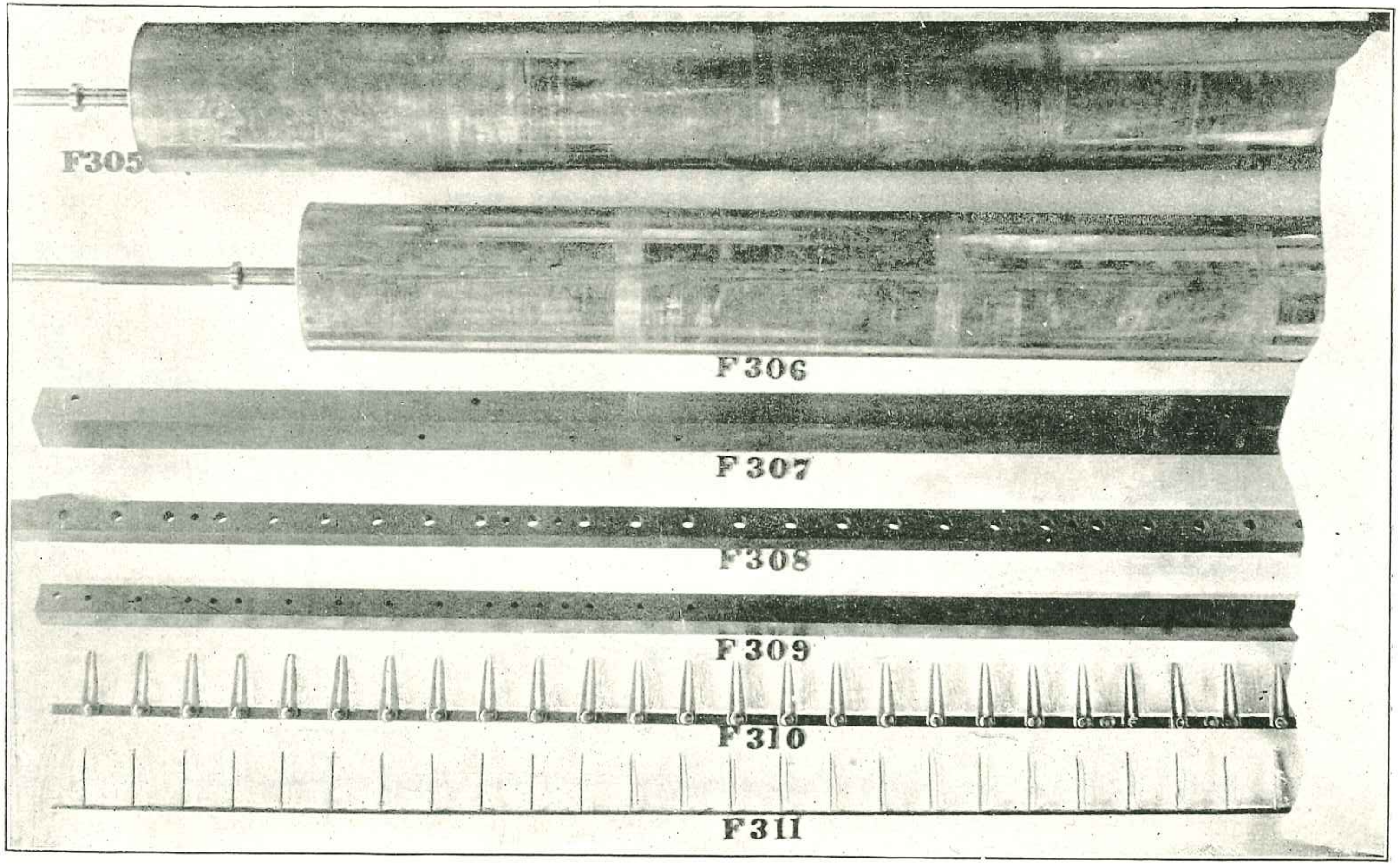
Parts for Worsted Flyer Spinning Frame.

ORDERING NO.		SHOP NO.
F 296	Shipper Rod, (Long),	313
F 297	Shipper Rod, (Short),	314
F 298	Chain Roll Bar, (Short),	285
	Lifter Pulley Stud,	281
F 299	Chain Roll Bar, (Long),	286
	Lifter Pulley Stud,	281
F 300	Wire Board Lifting Bar, R. H.,	293
	Wire Board Lifting Bar Hinge.	

ORDERING NO.		SHOP NO.
F 301	Wire Board Lifting Bar, L. H.,	293
	Wire Board Lifting Bar Hinge.	
F 302	Chain Rod,	298
F 303	Shaft for Back and Middle Carrier Roll adj. Slide,	303
	Rack Gear 13th., (without hub),	39,029
F 304	Rack Shaft for Back Roll adj. Slide,	307
	Rack Gear 13th., (without hub),	39,029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Parts for Worsted Flyer Spinning Frame.

ORDERING NO.		SHOP NO.
F 305	Foot End Drum, (Miscel.)	
	End Drum Head,	39,207
	Int. Drum Head, (Sq. Hole),	39,200
	Drum Shaft for Foot End,	320
F 306	Head End Drum, (Miscel.)	
	End Drum Head,	39,207
	Int. Drum Head, (Round Hole),	39,212
	Drum Shaft for Head End,	318

ORDERING NO.		SHOP NO.
	Key for Head End Drum Shaft,	514
F 307	Roller Beam,	39,101
F 308	Top Rail,	39,102
F 309	Bottom Rail,	39,103
F 310	Roving Traverse Bar,	292
	Back Guide,	39.055
F 311	Doffing Rail, (Give length),	290 and 291
	Doffing Rail Pin,	309

EXTRACT FROM FIBRE AND FABRIC:

AN AMERICAN MADE WORSTED SPINNING FRAME.

"The ever progressive management of the Lowell Machine Shop have at last succeeded in what has been attempted before by many others to construct a worsted spinning frame which, they claim is as perfect as the imported machine. They are the first and only builders on American soil to produce so intricate a piece of machinery, and this fact promises to insure to them well merited fame and additional fortune."

EXTRACT FROM BOSTON JOURNAL OF COMMERCE:

A NEW DEPARTURE.

THE LOWELL MACHINE SHOP TO MANUFACTURE WORSTED SPINNING MACHINERY.

"The Lowell Machine Shop, which for over half a century has been the largest builder of cotton machinery in this country, has added to its line the building of Worsted Spinning Machinery, and is now prepared to take orders for both cotton and worsted machinery. This is a step in the right direction, and fills a want that our worsted manufacturers have for some time felt the need of. The Lowell Machine Shop is just the right concern to take up the building of this machinery in this country, as it has a large force of skilled mechanics that are particularly well fitted for doing a high class of work. This progressive concern has thus succeeded in accomplishing what has been attempted before by many others, namely the construction of a worsted spinning frame which is claimed to be as perfect as the imported machine. It is the only successful builder in America of this intricate machine, for which it deserves great credit. This has been the result of earnest and careful study, the exercise of a high degree of skill, and commendable enterprise; and it is deserving of all the fame and additional fortune which it is sure to bring to the company."

EXTRACT FROM THE BULLETIN OF THE NATIONAL ASSOCIATION OF WOOL MANUFACTURERS:

AMERICAN WORSTED MACHINERY.

"For many years past this Bulletin has commented upon the fact that all the worsted preparatory and spinning machinery in use in the United States is of foreign manufacture. It has urged that here was an unoccupied field of industry promising large returns to the establishment with the courage, the capital, and the brains to enter and possess it. The achievements of our builders of all forms of cotton and woolen machinery have proved that we are able to accomplish results in this class of mechanism which cannot be excelled in any European country; no reason exists why worsted machinery, of a character equally superior, should not be manufactured here for the equipment of our own mills. The obstacles have been the large capital required for the plant and the doubt whether the demand for this class of machinery was sufficient, as yet, to justify its investment.

These doubts have now been happily resolved by the decision of the Lowell Machine Shop to add a worsted machinery department to the works, as announced in our advertising pages. The fifty years' experience of the establishment in the building of cotton machinery has equipped it to make a success of its new undertaking from the very start. It has a large force of trained mechanical experts, and there is nothing in the nature of an experiment in the move. A flyer spinning frame of 144 spindles, just completed by the Lowell Machine Shop, shows a construction which compares, at every point, most favorably with the best English-made frames, and is shown in some important details to be superior. Our worsted manufacturers will commend the plan of the Lowell Machine Shop to attempt no radical departures from the established lines of English makes of these machines, but to build frames which are interchangeable with the best already in operation in our mills. The Company is also prepared to take orders for open-can and two-spindle gill boxes, weigh boxes, drawing boxes, and dandy roving and reducing frames with any number of spindles. We may now look forward to the time when our most progressive worsted mills shall be equipped throughout with American built machinery.''

EXTRACT FROM THE COTTON AND WOOL REPORTER:

''This progressive concern has thus succeeded in accomplishing what has been attempted before by many others, namely, the construction of a worsted spinning frame which is claimed to be as perfect as the imported machine. They are the only successful builders in America of this intricate machine, for which they deserve great credit. This has been the result of earnest and careful study, the exercise of a high degree of skill and commendable enterprise, and they are deserving of all the fame and additional fortune which it is sure to bring to them.''

We are prepared to furnish REPAIRS for DANDY ROVING FRAMES, DRAWING BOXES and GILL BOXES. Our PATTERNS ARE COMPLETED, and we have in preparation a catalogue containing Cuts, Descriptions and Ordering Numbers of the various parts.

You will SAVE MONEY AND TIME by purchasing all of your repairs of us.

Owing to our extensive use of the most THOROUGHLY UP-TO-DATE METHODS OF MANUFACTURE, we are enabled to make LOW PRICES.

WE MANUFACTURE THE FOLLOWING COTTON MACHINERY:

- REVOLVING FLAT CARDS.
- LIFTING TOP-FLAT CARDS.
- DRAWING FRAMES.
- SPEEDERS.
- FLY FRAMES.
- RING FRAMES.
- SPOOLERS.
- SLASHER WARPERS.
- LEESE WARPERS.
- RING TWISTERS.
- CYLINDER SLASHERS.
- HOT-AIR SLASHERS.
- PLAIN LOOMS.
- DUCK LOOMS.
- SHEARING MACHINES.
- BRUSHING MACHINES.
- FOLDERS.
- CLOTH STAMPING MACHINES.
- BALING PRESSES.
- SIZE KETTLES.

Plans for Worsted and Cotton Mills.

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Austin 1998

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